

Appendix table 4-1. Doctorates in science and engineering, by field, primary source of support in graduate school, and sex: 1993

Field and primary source of support	Total		Men		Women	
	Number	Percent	Number	Percent	Number	Percent
Total, all fields.....	39,754	100.0	24,646	100.0	15,108	100.0
Teaching assistantship.....	4,618	11.6	2,929	11.9	1,689	11.2
Research assistantship.....	7,037	17.7	5,276	21.4	1,761	11.7
Other.....	14,605	36.7	8,022	32.5	6,583	43.6
Unknown.....	13,494	33.9	8,419	34.2	5,075	33.6
Total science and engineering.....	25,184	100.0	17,647	100.0	7,537	100.0
Teaching assistantship.....	3,059	12.1	2,108	11.9	951	12.6
Research assistantship.....	6,438	25.6	4,962	28.1	1,476	19.6
Other.....	7,363	29.2	4,722	26.8	2,641	35.0
Unknown.....	8,324	33.1	5,855	33.2	2,469	32.8
Physical sciences.....	4,472	100.0	3,529	100.0	943	100.0
Teaching assistantship.....	627	14.0	484	13.7	143	15.2
Research assistantship.....	1,661	37.1	1,333	37.8	328	34.8
Other.....	684	15.3	533	15.1	151	16.0
Unknown.....	1,500	33.5	1,179	33.4	321	34.0
Mathematical and computer sciences.....	2,024	100.0	1,623	100.0	401	100.0
Teaching assistantship.....	628	31.0	483	29.8	145	36.2
Research assistantship.....	326	16.1	272	16.8	54	13.5
Other.....	459	22.7	364	22.4	95	23.7
Unknown.....	611	30.2	504	31.1	107	26.7
Agricultural sciences.....	969	100.0	741	100.0	228	100.0
Teaching assistantship.....	28	2.9	19	2.6	9	3.9
Research assistantship.....	317	32.7	239	32.3	78	34.2
Other.....	312	32.2	239	32.3	73	32.0
Unknown.....	312	32.2	244	32.9	68	29.8
Biological sciences.....	5,090	100.0	3,040	100.0	2,050	100.0
Teaching assistantship.....	486	9.5	268	8.8	218	10.6
Research assistantship.....	1,350	26.5	803	26.4	547	26.7
Other.....	1,607	31.6	951	31.3	656	32.0
Unknown.....	1,647	32.4	1,018	33.5	629	30.7
Psychology.....	3,419	100.0	1,330	100.0	2,089	100.0
Teaching assistantship.....	343	10.0	136	10.2	207	9.9
Research assistantship.....	273	8.0	110	8.3	163	7.8
Other.....	1,621	47.4	610	45.9	1,011	48.4
Unknown.....	1,182	34.6	474	35.6	708	33.9
Social sciences.....	3,514	100.0	2,209	100.0	1,305	100.0
Teaching assistantship.....	541	15.4	354	16.0	187	14.3
Research assistantship.....	300	8.5	195	8.8	105	8.0
Other.....	1,302	37.1	790	35.8	512	39.2
Unknown.....	1,371	39.0	870	39.4	501	38.4
Engineering.....	5,696	100.0	5,175	100.0	521	100.0
Teaching assistantship.....	406	7.1	364	7.0	42	8.1
Research assistantship.....	2,211	38.8	2,010	38.8	201	38.6
Other.....	1,378	24.2	1,235	23.9	143	27.4
Unknown.....	1,701	29.9	1,566	30.3	135	25.9
Non-science and -engineering.....	14,570	100.0	6,999	100.0	7,571	100.0
Teaching assistantship.....	1,559	10.7	821	11.7	738	9.7
Research assistantship.....	599	4.1	314	4.5	285	3.8
Other.....	7,242	49.7	3,300	47.1	3,942	52.1
Unknown.....	5,170	35.5	2,564	36.6	2,606	34.4

NOTES: An analysis of the validity of responses to the question on source of support revealed that the "teaching assistantship" and "research assistantship" responses are likely to be accurate, but that other responses, such as "USDA Fellowship" or "Rockefeller Foundation Fellowship" are likely to be invalid because the respondents could accurately identify the type, but not the source, of financial support. Therefore, these responses, which in many cases are the majority of responses, are aggregated as "other." Data differ slightly from other doctoral degree totals because field classifications could not be adjusted to the exact field taxonomies used in other tables. Because of rounding, details may not add to totals.

SOURCE: National Science Foundation/SRS. Survey of Earned Doctorates.

Appendix table 4-2. Doctorates in science and engineering awarded to U.S. citizens, by field, primary source of support in graduate school, and race/ethnicity: 1993

Field and primary source of support	Total	Black	American Indian	Asian	Hispanic	White	Other/unknown
Total, all fields.....	26,386	1,106	119	891	834	23,202	234
Teaching assistantship.....	2,772	49	7	71	76	2,548	21
Research assistantship.....	3,747	49	7	240	79	3,350	22
Other.....	11,914	578	63	303	355	10,557	58
Unknown.....	7,953	430	42	277	324	6,747	133
Total science and engineering.....	14,708	363	41	710	439	13,011	144
Teaching assistantship.....	1,610	21	4	57	40	1,473	15
Research assistantship.....	3,379	34	6	229	76	3,012	22
Other.....	5,506	152	16	215	175	4,918	30
Unknown.....	4,213	156	15	209	148	3,608	77
Physical sciences.....	2,555	31	9	127	75	2,285	28
Teaching assistantship.....	345	3	1	10	11	315	5
Research assistantship.....	1,016	7	1	59	18	923	8
Other.....	550	10	3	21	17	497	2
Unknown.....	644	11	4	37	29	550	13
Mathematical and computer sciences.....	920	10	2	55	14	824	15
Teaching assistantship.....	233	3	1	16	3	208	2
Research assistantship.....	159	0	0	8	3	147	1
Other.....	300	4	0	12	4	276	4
Unknown.....	228	3	1	19	4	193	8
Agricultural sciences.....	457	5	1	9	14	425	3
Teaching assistantship.....	15	1	0	0	1	13	0
Research assistantship.....	163	1	0	3	1	157	1
Other.....	135	1	0	2	5	126	1
Unknown.....	144	2	1	4	7	129	1
Biological sciences.....	3,445	63	7	190	93	3,053	39
Teaching assistantship.....	314	4	0	12	9	286	3
Research assistantship.....	797	4	3	48	24	713	5
Other.....	1,322	32	3	71	29	1,180	7
Unknown.....	1,012	23	1	59	31	874	24
Psychology.....	3,066	117	15	52	120	2,746	16
Teaching assistantship.....	305	6	1	5	6	287	0
Research assistantship.....	254	12	1	7	7	227	0
Other.....	1,528	53	7	23	67	1,375	3
Unknown.....	979	46	6	17	40	857	13
Social sciences.....	2,040	96	5	59	67	1,790	23
Teaching assistantship.....	294	3	0	4	8	274	5
Research assistantship.....	145	5	1	4	4	129	2
Other.....	875	31	2	26	27	783	6
Unknown.....	726	57	2	25	28	604	10
Engineering.....	2,225	41	2	218	56	1,888	20
Teaching assistantship.....	104	1	1	10	2	90	0
Research assistantship.....	845	5	0	100	19	716	5
Other.....	796	21	1	60	26	681	7
Unknown.....	480	14	0	48	9	401	8
Non-science and -engineering.....	11,678	743	78	181	395	10,191	90
Teaching assistantship.....	1,162	28	3	14	36	1,075	6
Research assistantship.....	368	15	1	11	3	338	0
Other.....	6,408	426	47	88	180	5,639	28
Unknown.....	3,740	274	27	68	176	3,139	56

NOTES: An analysis of the validity of responses to the question on source of support revealed that the "teaching assistantship" and "research assistantship" responses are likely to be accurate, but that other responses, such as "USDA Fellowship" or "Rockefeller Foundation Fellowship" are likely to be invalid because the respondents could accurately identify the type, but not the source, of financial support. Therefore, these responses, which in many cases are the majority of responses, are aggregated as "other." Data differ slightly from other doctoral degree totals because field classifications could not be adjusted to the exact field taxonomies used in other tables.

SOURCE: National Science Foundation/SRS. Survey of Earned Doctorate:

Appendix table 4-3. Doctorates in science and engineering, by field, primary source of support in graduate school, and disability status: 1993

Field and primary source of support	Total		With disabilities		Without disabilities	
	Number	Percent	Number	Percent	Number	Percent
Total, all fields.....	39,754	100.0	632	100.0	36,515	100.0
Teaching assistantship.....	4,618	11.6	58	9.2	4,508	12.3
Research assistantship.....	7,037	17.7	85	13.4	6,859	18.8
Other.....	14,605	36.7	288	45.6	14,130	38.7
Unknown.....	13,494	33.9	201	31.8	11,018	30.2
Total science and engineering.....	25,184	100.0	329	100.0	23,266	100.0
Teaching assistantship.....	3,059	12.1	33	10.0	2,992	12.9
Research assistantship.....	6,438	25.6	74	22.5	6,284	27.0
Other.....	7,363	29.2	120	36.5	7,148	30.7
Unknown.....	8,324	33.1	102	31.0	6,842	29.4
Physical sciences.....	4,472	100.0	51	100.0	4,175	100.0
Teaching assistantship.....	627	14.0	8	15.7	616	14.8
Research assistantship.....	1,661	37.1	20	39.2	1,625	38.9
Other.....	684	15.3	7	13.7	671	16.1
Unknown.....	1,500	33.5	16	31.4	1,263	30.3
Mathematical and computer sciences.....	2,024	100.0	19	100.0	1,873	100.0
Teaching assistantship.....	628	31.0	6	31.6	617	32.9
Research assistantship.....	326	16.1	4	21.1	316	16.9
Other.....	459	22.7	4	21.1	449	24.0
Unknown.....	611	30.2	5	26.3	491	26.2
Agricultural sciences.....	969	100.0	11	100.0	911	100.0
Teaching assistantship.....	28	2.9	0	0.0	28	3.1
Research assistantship.....	317	32.7	2	18.2	310	34.0
Other.....	312	32.2	5	45.5	302	33.2
Unknown.....	312	32.2	4	36.4	271	29.7
Biological sciences.....	5,090	100.0	67	100.0	4,760	100.0
Teaching assistantship.....	486	9.5	5	7.5	468	9.8
Research assistantship.....	1,350	26.5	22	32.8	1,313	27.6
Other.....	1,607	31.6	18	26.9	1,568	32.9
Unknown.....	1,647	32.4	22	32.8	1,411	29.6
Psychology.....	3,419	100.0	71	100.0	3,056	100.0
Teaching assistantship.....	343	10.0	4	5.6	336	11.0
Research assistantship.....	273	8.0	2	2.8	267	8.7
Other.....	1,621	47.4	45	63.4	1,552	50.8
Unknown.....	1,182	34.6	20	28.2	901	29.5
Social sciences.....	3,514	100.0	65	100.0	3,216	100.0
Teaching assistantship.....	541	15.4	6	9.2	529	16.4
Research assistantship.....	300	8.5	6	9.2	288	9.0
Other.....	1,302	37.1	27	41.5	1,255	39.0
Unknown.....	1,371	39.0	26	40.0	1,144	35.6
Engineering.....	5,696	100.0	45	100.0	5,275	100.0
Teaching assistantship.....	406	7.1	4	8.9	398	7.5
Research assistantship.....	2,211	38.8	18	40.0	2,165	41.0
Other.....	1,378	24.2	14	31.1	1,351	25.6
Unknown.....	1,701	29.9	9	20.0	1,361	25.8
Non-science and -engineering.....	14,570	100.0	303	100.0	13,249	100.0
Teaching assistantship.....	1,559	10.7	25	8.3	1,516	11.4
Research assistantship.....	599	4.1	11	3.6	575	4.3
Other.....	7,242	49.7	168	55.4	6,982	52.7
Unknown.....	5,170	35.5	99	32.7	4,176	31.5

NOTES: An analysis of the validity of responses to the question on source of support revealed that the "teaching assistantship" and "research assistantship" responses are likely to be accurate, but that other responses, such as "USDA Fellowship" or "Rockefeller Foundation Fellowship" are likely to be invalid because the respondents could accurately identify the type, but not the source, of financial support. Therefore, these responses, which in many cases are the majority of responses, are aggregated as "other." Data differ slightly from other doctoral degree totals because field classifications could not be adjusted to the exact field taxonomies used in other tables. Because of rounding, percentages may not add to 100.

SOURCE: National Science Foundation/SRS. Survey of Earned Doctorates.

Appendix table 4-4. Selected characteristics of graduate students, by disability status: 1992–1993

[Percent distribution]

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Student characteristics and field	Students without disabilities	Students with disabilities
Total.....	96.0	4.0
Characteristics		
Attendance pattern:		
Full-time/full year: 1 institution.....	97.0	3.0
Full-time/full year: more than 1 institution.....	87.9	12.1
Full-time/part year.....	94.5	5.5
Part-time/full year: 1 institution.....	96.0	4.0
Part-time/full year: more than 1 institution.....	94.2	5.8
Part-time/part year.....	95.7	4.3
Received any financial aid in 1992–1993:		
No.....	96.0	4.1
Yes.....	96.1	3.9
Received any need-based aid in 1992–1993:		
No.....	96.0	4.0
Yes.....	96.1	3.9
Major field of study		
Total science and engineering.....	96.1	3.9
Agricultural sciences.....	94.4	5.6
Computer science and mathematics.....	95.9	4.1
Biological sciences.....	96.2	3.8
Physical sciences.....	95.1	4.9
Social sciences.....	96.0	4.0
Engineering.....	97.1	2.9
Non-science and -engineering.....	96.0	4.0

NOTE: Because of rounding, percentages may not add to 100.

SOURCE: U.S. Department of Education/NCES. 1992–93 National Postsecondary Student Aid S Table generation system.

Women, Minorities, and Persons With Disabilities in Science and Engineering: 1996

Appendix 4-5. Median years between bachelor's and doctoral degrees, by field and sex: 1993

Field	Total		Men		Women	
	Registered	Total	Registered	Total	Registered	Total
Total, all fields.....	7.12	10.52	6.91	9.93	7.50	12.20
Total science and engineering.....	6.72	9.07	6.63	9.00	6.97	9.24
Physics and astronomy.....	6.73	7.84	6.68	7.76	7.04	8.38
Chemistry.....	5.81	7.18	5.90	7.32	5.56	6.85
Earth, atmos & ocean sciences.....	7.47	10.32	7.36	10.45	7.79	9.91
Mathematics.....	6.68	8.54	6.66	8.58	6.76	8.42
Computer/information sciences.....	6.98	9.48	6.81	9.34	7.87	11.19
Agricultural sciences.....	6.57	10.65	6.54	10.71	6.73	10.50
Biological sciences.....	6.75	8.55	6.78	8.56	6.71	8.54
Psychology.....	7.19	9.95	7.13	9.87	7.23	10.02
Social sciences.....	7.72	10.91	7.55	10.53	8.06	11.73
Engineering.....	6.27	8.83	6.26	8.92	6.38	8.03
Non-science and -engineering.....	8.05	15.65	7.91	14.16	8.17	16.99

SOURCE: National Science Foundation/SRS. Survey of Earned Doctorates.

Women, Minorities, and Persons With Disabilities in Science and Engineering: 1996

Appendix table 4-6. Female science and engineering graduate students in all institutions, by field: 1988–1993

Field	1988	1989	1990	1991	1992	1993
Total science and engineering.....	121,429	126,264	134,222	141,359	150,684	157,493
Sciences.....	108,280	112,636	119,532	125,624	133,429	139,758
Physical sciences.....	7,497	7,801	8,080	8,580	8,856	9,216
Astronomy.....	140	140	165	172	186	198
Chemistry.....	5,467	5,670	5,868	6,262	6,562	6,854
Physics.....	1,751	1,868	1,925	1,993	1,955	1,988
Physical sciences, n.e.c.....	139	123	122	153	153	176
Earth, atmospheric, and ocean sciences.....	3,824	3,868	4,133	4,474	4,887	5,092
Atmospheric sciences.....	163	178	185	190	241	225
Geosciences.....	2,095	1,963	1,922	2,008	2,077	2,112
Oceanography.....	645	725	781	846	959	1,016
Earth, atmospheric, and ocean sciences, n.e.c.....	921	1,002	1,245	1,430	1,610	1,739
Mathematical sciences.....	5,781	5,990	6,205	6,303	6,553	6,698
Computer sciences.....	8,194	7,988	8,222	8,274	8,428	8,421
Agricultural sciences.....	3,100	3,148	3,327	3,563	3,767	4,081
Biological sciences.....	21,267	22,239	23,054	24,150	25,495	27,076
Anatomy.....	458	480	458	501	493	493
Biochemistry.....	1,996	2,018	2,065	2,131	2,218	2,340
Biology.....	5,454	5,752	5,949	6,217	6,587	6,842
Biometry/epidemiology.....	914	984	997	1,112	1,331	1,530
Biophysics.....	149	162	164	182	202	226
Botany.....	1,122	1,090	1,085	1,076	1,062	1,110
Cell biology.....	845	944	1,120	1,281	1,406	1,582
Ecology.....	397	440	469	518	589	664
Entomology/parasitology.....	359	364	358	341	354	400
Genetics.....	629	690	727	759	842	932
Microbiology, immunology, and virology.....	2,157	2,239	2,320	2,352	2,366	2,459
Nutrition.....	2,941	2,967	2,941	2,916	2,947	3,095
Pathology.....	554	579	586	638	661	759
Pharmacology.....	847	969	1,024	1,130	1,186	1,245
Physiology.....	863	893	933	966	951	983
Zoology.....	784	792	835	884	828	860
Biological sciences, n.e.c.....	798	876	1,023	1,146	1,472	1,556
Psychology.....	28,541	30,155	32,691	35,185	37,150	38,392
Social sciences.....	30,076	31,447	33,820	35,095	38,293	40,782
Agricultural economics.....	546	582	599	636	712	748
Anthropology (cultural and social).....	3,446	3,580	3,791	3,953	4,247	4,402
Economics (except agricultural).....	3,098	3,240	3,372	3,557	3,800	3,870
Geography.....	1,055	1,184	1,204	1,318	1,431	1,582
Linguistics.....	1,947	1,952	2,006	1,913	1,996	2,059
Political science.....	11,422	12,191	13,194	13,757	15,021	16,003
Sociology.....	3,839	3,997	4,290	4,615	5,144	5,558
Sociology/anthropology.....	548	568	697	514	569	563
Social sciences, n.e.c.....	4,175	4,153	4,667	4,832	5,373	5,997

See explanatory information and SOURCE at end of table.

Appendix table 4-6. Female science and engineering graduate students in all institutions, by field: 1988–1993

Field	1988	1989	1990	1991	1992	1993
Engineering.....	13,149	13,628	14,690	15,735	17,255	17,735
Aerospace engineering.....	227	243	289	327	348	358
Agricultural engineering.....	86	87	101	126	144	151
Biomedical engineering.....	442	474	547	588	617	696
Chemical engineering.....	1,075	1,029	1,146	1,257	1,394	1,496
Civil engineering.....	2,294	2,435	2,689	3,102	3,652	3,895
Electrical engineering.....	3,278	3,515	3,715	3,871	4,298	4,321
Engineering science.....	267	248	299	288	305	305
Industrial eng./management science.....	2,088	2,106	2,132	2,350	2,651	2,597
Mechanical engineering.....	1,412	1,398	1,442	1,511	1,698	1,774
Metallurgical/materials engineering.....	756	810	897	991	1,074	1,026
Nuclear engineering.....	127	141	155	177	186	185
Engineering, n.e.c.....	1,097	1,142	1,278	1,147	888	931

KEY: n.e.c.= Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering, 1993.

Appendix table 4-7. Male science and engineering graduate students in all institutions, by field: 1988–1993

Field	1988	1989	1990	1991	1992	1993
Total science and engineering.....	254,150	256,963	263,644	272,200	280,760	280,559
Sciences.....	164,355	166,547	170,712	174,293	179,898	181,188
Physical sciences.....	25,465	25,815	26,050	26,216	26,559	26,179
Astronomy.....	591	649	645	657	683	682
Chemistry.....	13,112	13,158	13,250	13,145	13,367	13,288
Physics.....	11,557	11,789	11,943	12,146	12,233	11,919
Physical sciences, n.e.c.....	205	219	212	268	276	290
Earth, atmospheric, and ocean sciences.....	10,081	9,800	9,891	10,058	10,526	10,799
Atmospheric sciences.....	777	734	744	778	848	887
Geosciences.....	6,368	6,089	5,770	5,559	5,667	5,672
Oceanography.....	1,388	1,482	1,552	1,540	1,571	1,637
Earth, atmospheric, and ocean sciences, n.e.c.....	1,548	1,495	1,825	2,181	2,440	2,603
Mathematical sciences.....	13,315	13,294	13,589	13,667	13,814	13,466
Computer sciences.....	24,033	24,494	26,149	26,424	27,905	27,926
Agricultural sciences.....	8,028	8,044	7,974	7,940	8,053	7,862
Biological sciences.....	26,318	26,633	26,963	27,662	28,736	29,464
Anatomy.....	598	598	542	550	537	534
Biochemistry.....	2,925	3,064	2,974	3,070	3,158	3,188
Biology.....	6,939	7,009	7,078	7,084	7,303	7,553
Biometry/epidemiology.....	768	738	874	920	1,037	1,135
Biophysics.....	443	493	478	515	549	554
Botany.....	1,814	1,754	1,676	1,646	1,656	1,632
Cell biology.....	1,233	1,290	1,435	1,528	1,687	1,809
Ecology.....	602	644	667	662	712	746
Entomology/parasitology.....	881	817	815	830	839	847
Genetics.....	660	675	681	761	797	853
Microbiology, immunology, and virology.....	2,616	2,588	2,553	2,576	2,606	2,594
Nutrition.....	1,191	1,197	1,231	1,236	1,203	1,225
Pathology.....	789	803	784	837	826	858
Pharmacology.....	1,277	1,298	1,329	1,302	1,352	1,410
Physiology.....	1,357	1,313	1,303	1,366	1,366	1,389
Zoology.....	1,245	1,291	1,269	1,307	1,311	1,260
Biological sciences, n.e.c.....	980	1,061	1,274	1,472	1,797	1,877
Psychology.....	15,543	15,796	15,963	16,694	16,767	16,827
Social sciences.....	41,572	42,671	44,133	45,632	47,538	48,665
Agricultural economics.....	1,713	1,694	1,674	1,728	1,810	1,667
Anthropology (cultural and social).....	2,499	2,548	2,688	2,778	2,876	2,976
Economics (except agricultural).....	8,927	8,887	8,940	9,138	9,439	9,444
Geography.....	2,153	2,295	2,326	2,442	2,671	2,796
Linguistics.....	1,296	1,334	1,398	1,512	1,281	1,328
Political science.....	16,359	17,017	17,430	17,982	18,891	19,552
Sociology.....	3,248	3,396	3,507	3,759	3,834	3,846
Sociology/anthropology.....	443	454	502	436	475	456
Social sciences, n.e.c.....	4,934	5,046	5,668	5,857	6,261	6,600

See explanatory information and SOURCE at end of table.

Appendix table 4-7. Male science and engineering graduate students in all institutions, by field: 1988–1993

Field	1988	1989	1990	1991	1992	1993
Engineering.....	89,795	90,416	92,932	97,907	100,862	99,371
Aerospace engineering.....	2,996	3,281	3,645	3,793	3,688	3,590
Agricultural engineering.....	966	956	845	860	864	867
Biomedical engineering.....	1,310	1,442	1,589	1,651	1,920	1,976
Chemical engineering.....	5,543	5,431	5,589	5,870	6,003	6,000
Civil engineering.....	12,517	12,474	12,853	14,296	15,905	15,780
Electrical engineering.....	28,757	29,742	30,007	31,311	32,176	31,056
Engineering science.....	2,119	1,829	1,721	1,866	1,913	1,880
Industrial eng./management science.....	9,287	8,959	9,107	10,319	10,871	11,051
Mechanical engineering.....	14,774	14,814	15,346	16,219	16,939	16,700
Metallurgical/materials engineering.....	3,581	3,784	4,052	4,177	4,446	4,341
Nuclear engineering.....	1,176	1,182	1,123	1,105	1,100	1,121
Engineering, n.e.c.....	6,769	6,522	7,055	6,440	5,037	5,009

KEY: n.e.c.= Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering, 1993.

Appendix table 4-8. Women as a percent of science and engineering graduate students in all institutions, by field: 1988–1993

Field	1988	1989	1990	1991	1992	1993
Total science and engineering.....	32.3	32.9	33.7	34.2	34.9	36.0
Sciences.....	39.7	40.3	41.2	41.9	42.6	43.5
Physical sciences.....	22.7	23.2	23.7	24.7	25.0	26.0
Astronomy.....	19.2	17.7	20.4	20.7	21.4	22.5
Chemistry.....	29.4	30.1	30.7	32.3	32.9	34.0
Physics.....	13.2	13.7	13.9	14.1	13.8	14.3
Physical sciences, n.e.c.....	40.4	36.0	36.5	36.3	35.7	37.8
Earth, atmospheric, and ocean sciences.....	27.5	28.3	29.5	30.8	31.7	32.0
Atmospheric sciences.....	17.3	19.5	19.9	19.6	22.1	20.2
Geosciences.....	24.8	24.4	25.0	26.5	26.8	27.1
Oceanography.....	31.7	32.9	33.5	35.5	37.9	38.3
Earth, atmospheric, and ocean sciences, n.e.c.....	37.3	40.1	40.6	39.6	39.8	40.1
Mathematical sciences.....	30.3	31.1	31.3	31.6	32.2	33.2
Computer sciences.....	25.4	24.6	23.9	23.8	23.2	23.2
Agricultural sciences.....	27.9	28.1	29.4	31.0	31.9	34.2
Biological sciences.....	44.7	45.5	46.1	46.6	47.0	47.9
Anatomy.....	43.4	44.5	45.8	47.7	47.9	48.0
Biochemistry.....	40.6	39.7	41.0	41.0	41.3	42.3
Biology.....	44.0	45.1	45.7	46.7	47.4	47.5
Biometry/epidemiology.....	54.3	57.1	53.3	54.7	56.2	57.4
Biophysics.....	25.2	24.7	25.5	26.1	26.9	29.0
Botany.....	38.2	38.3	39.3	39.5	39.1	40.5
Cell biology.....	40.7	42.3	43.8	45.6	45.5	46.7
Ecology.....	39.7	40.6	41.3	43.9	45.3	47.1
Entomology/parasitology.....	29.0	30.8	30.5	29.1	29.7	32.1
Genetics.....	48.8	50.5	51.6	49.9	51.4	52.2
Microbiology, immunology, and virology.....	45.2	46.4	47.6	47.7	47.6	48.7
Nutrition.....	71.2	71.3	70.5	70.2	71.0	71.6
Pathology.....	41.3	41.9	42.8	43.3	44.5	46.9
Pharmacology.....	39.9	42.7	43.5	46.5	46.7	46.9
Physiology.....	38.9	40.5	41.7	41.4	41.0	41.4
Zoology.....	38.6	38.0	39.7	40.3	38.7	40.6
Biological sciences, n.e.c.....	44.9	45.2	44.5	43.8	45.0	45.3
Psychology.....	64.7	65.6	67.2	67.8	68.9	69.5
Social sciences.....	42.0	42.4	43.4	43.5	44.6	45.6
Agricultural economics.....	24.2	25.6	26.4	26.9	28.2	31.0
Anthropology (cultural and social).....	58.0	58.4	58.5	58.7	59.6	59.7
Economics (except agricultural).....	25.8	26.7	27.4	28.0	28.7	29.1
Geography.....	32.9	34.0	34.1	35.1	34.9	36.1
Linguistics.....	60.0	59.4	58.9	55.9	60.9	60.8
Political science.....	41.1	41.7	43.1	43.3	44.3	45.0
Sociology.....	54.2	54.1	55.0	55.1	57.3	59.1
Sociology/anthropology.....	55.3	55.6	58.1	54.1	54.5	55.3
Social sciences, n.e.c.....	45.8	45.1	45.2	45.2	46.2	47.6

See explanatory information and SOURCE at end of table.

Appendix table 4-8. Women as a percent of science and engineering graduate students in all institutions, by field: 1988–1993

Field	1988	1989	1990	1991	1992	1993
Engineering.....	12.8	13.1	13.6	13.8	14.6	15.1
Aerospace engineering.....	7.0	6.9	7.3	7.9	8.6	9.1
Agricultural engineering.....	8.2	8.3	10.7	12.8	14.3	14.8
Biomedical engineering.....	25.2	24.7	25.6	26.3	24.3	26.0
Chemical engineering.....	16.2	15.9	17.0	17.6	18.8	20.0
Civil engineering.....	15.5	16.3	17.3	17.8	18.7	19.8
Electrical engineering.....	10.2	10.6	11.0	11.0	11.8	12.2
Engineering science.....	11.2	11.9	14.8	13.4	13.8	14.0
Industrial eng./management science.....	18.4	19.0	19.0	18.5	19.6	19.0
Mechanical engineering.....	8.7	8.6	8.6	8.5	9.1	9.6
Metallurgical/materials engineering.....	17.4	17.6	18.1	19.2	19.5	19.1
Nuclear engineering.....	9.7	10.7	12.1	13.8	14.5	14.2
Engineering, n.e.c.....	13.9	14.9	15.3	15.1	15.0	15.7

KEY: n.e.c.= Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering, 19

Women, Minorities, and Persons With Disabilities in Science and Engineering: 1996

Appendix table 4-9. Science and engineering graduate students in all institutions, by enrollment status, detailed field, and sex: 1993

Enrollment status and field	Both sexes	Women		Men	
		Number	Percent	Number	Percent
Full-time:					
Total science and engineering.....	294,645	103,291	35.1	191,354	64.9
Sciences.....	220,683	92,081	41.7	128,602	58.3
Physical sciences.....	30,619	7,723	25.2	22,896	74.8
Astronomy.....	848	190	22.4	658	77.6
Chemistry.....	17,210	5,739	33.3	11,471	66.7
Physics.....	12,399	1,739	14.0	10,660	86.0
Physical sciences, n.e.c.....	162	55	34.0	107	66.0
Earth, atmospheric, and ocean sciences.....	11,403	3,564	31.3	7,839	68.7
Atmospheric sciences.....	980	197	20.1	783	79.9
Geosciences.....	5,971	1,633	27.3	4,338	72.7
Oceanography.....	2,218	803	36.2	1,415	63.8
Earth, atmospheric, and ocean sciences, n.e.c.....	2,234	931	41.7	1,303	58.3
Mathematical sciences.....	14,584	4,453	30.5	10,131	69.5
Computer sciences.....	17,458	3,581	20.5	13,877	79.5
Agricultural sciences.....	9,497	3,187	33.6	6,310	66.4
Biological sciences.....	46,547	21,567	46.3	24,980	53.7
Psychology.....	34,953	23,674	67.7	11,279	32.3
Social sciences.....	55,622	24,332	43.7	31,290	56.3
Economics.....	12,070	3,455	28.6	8,615	71.4
Political science.....	18,441	7,794	42.3	10,647	57.7
Sociology.....	7,244	4,178	57.7	3,066	42.3
Anthropology.....	5,429	3,171	58.4	2,258	41.6
Linguistics.....	2,571	1,505	58.5	1,066	41.5
History of sciences.....	334	128	38.3	206	61.7
Social sciences, n.e.c.....	9,533	4,101	43.0	5,432	57.0
Engineering.....	73,962	11,210	15.2	62,752	84.8
Aerospace engineering.....	3,266	291	8.9	2,975	91.1
Chemical engineering.....	6,021	1,163	19.3	4,858	80.7
Civil engineering.....	12,497	2,539	20.3	9,958	79.7
Electrical engineering.....	20,438	2,445	12.0	17,993	88.0
Mechanical engineering.....	12,441	1,185	9.5	11,256	90.5
Materials engineering.....	4,255	802	18.8	3,453	81.2
Industrial engineering.....	5,882	1,165	19.8	4,717	80.2
Engineering, n.e.c.....	9,162	1,620	17.7	7,542	82.3

See explanatory information and SOURCES at end of table.

Appendix table 4-9. Science and engineering graduate students in all institutions, by enrollment status, detailed field, and sex: 1993

Enrollment status and field	Both sexes	Women		Men	
		Number	Percent	Number	Percent
Part-time:					
Total science and engineering.....	143,407	54,202	37.8	89,205	62.2
Sciences.....	100,263	47,677	47.6	52,586	52.4
Physical sciences.....	4,776	1,493	31.3	3,283	68.7
Astronomy.....	32	8	25.0	24	75.0
Chemistry.....	2,932	1,115	38.0	1,817	62.0
Physics.....	1,508	249	16.5	1,259	83.5
Physical sciences, n.e.c.....	304	121	39.8	183	60.2
Earth, atmospheric, and ocean sciences.....	4,488	1,528	34.0	2,960	66.0
Atmospheric sciences.....	132	28	21.2	104	78.8
Geosciences.....	1,813	479	26.4	1,334	73.6
Oceanography.....	435	213	49.0	222	51.0
Earth, atmospheric, and ocean sciences, n.e.c.....	2,108	808	38.3	1,300	61.7
Mathematical sciences.....	5,580	2,245	40.2	3,335	59.8
Computer sciences.....	18,889	4,840	25.6	14,049	74.4
Agricultural sciences.....	2,446	894	36.5	1,552	63.5
Biological sciences.....	9,993	5,509	55.1	4,484	44.9
Psychology.....	20,266	14,718	72.6	5,548	27.4
Social sciences.....	33,825	16,450	48.6	17,375	51.4
Economics.....	3,659	1,163	31.8	2,496	68.2
Political science.....	17,114	8,209	48.0	8,905	52.0
Sociology.....	3,179	1,943	61.1	1,236	38.9
Anthropology.....	1,949	1,231	63.2	718	36.8
Linguistics.....	816	554	67.9	262	32.1
History of sciences.....	35	14	40.0	21	60.0
Social sciences, n.e.c.....	7,073	3,336	47.2	3,737	52.8
Engineering.....	43,144	6,525	15.1	36,619	84.9
Aerospace engineering.....	682	67	9.8	615	90.2
Chemical engineering.....	1,475	333	22.6	1,142	77.4
Civil engineering.....	7,178	1,356	18.9	5,822	81.1
Electrical engineering.....	14,939	1,876	12.6	13,063	87.4
Mechanical engineering.....	6,033	589	9.8	5,444	90.2
Materials engineering.....	1,112	224	20.1	888	79.9
Industrial engineering.....	7,766	1,432	18.4	6,334	81.6
Engineering, n.e.c.....	3,959	648	16.4	3,311	83.6

KEY: n.e.c.= Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering, 1

Women, Minorities, and Persons With Disabilities in Science and Engineering: 1996

Appendix table 4-10. Full-time science and engineering graduate students in all institutions, by sex and field: 1988–1993

Sex and year	All S&E fields, total	Total sciences	Physical sciences	Earth, atmos, & ocean sciences	Mathematical sciences	Agricultural sciences	Biological science	Psychology	Social sciences
Both sexes:									
1988.....	250,788	187,722	28,574	10,199	28,646	9,123	39,214	28,224	43,742
1989.....	256,993	192,585	29,207	10,027	29,289	9,076	40,361	29,478	45,147
1990.....	265,527	199,529	29,492	10,262	30,557	9,092	40,959	30,791	48,376
1991.....	277,385	206,286	30,125	10,395	30,796	9,291	42,718	32,443	50,518
1992.....	290,857	216,302	30,675	11,011	32,179	9,442	44,432	34,350	54,213
1993.....	294,645	220,683	30,619	11,403	32,042	9,497	46,547	34,953	55,622
Women:									
1988.....	78,406	70,768	6,366	2,749	7,056	2,487	16,803	17,989	17,318
1989.....	81,916	73,754	6,660	2,756	7,186	2,516	17,616	18,975	18,045
1990.....	86,833	78,121	6,824	2,933	7,513	2,638	18,164	20,095	19,954
1991.....	92,233	82,530	7,273	3,184	7,706	2,863	19,211	21,439	20,854
1992.....	98,911	88,223	7,500	3,413	7,991	2,998	20,173	23,118	23,030
1993.....	103,291	92,081	7,723	3,564	8,034	3,187	21,567	23,674	24,332
Men:									
1988.....	172,382	116,954	22,208	7,450	21,590	6,636	22,411	10,235	26,424
1989.....	175,077	118,831	22,547	7,271	22,103	6,560	22,745	10,503	27,102
1990.....	178,694	121,408	22,668	7,329	23,044	6,454	22,795	10,696	28,422
1991.....	185,152	123,756	22,852	7,211	23,090	6,428	23,507	11,004	29,664
1992.....	191,946	128,079	23,175	7,598	24,188	6,444	24,259	11,232	31,183
1993.....	191,354	128,602	22,896	7,839	24,008	6,310	24,980	11,279	31,290
	Total engineering	Aerospace engineering	Chemical engineering	Civil engineering	Electrical engineering	Mechanical engineering	Materials engineering	Industrial engineering	Other engineering
Both sexes:									
1988.....	63,066	2,533	5,359	9,946	17,706	10,426	3,466	4,294	9,336
1989.....	64,408	2,772	5,282	9,964	18,466	10,464	3,720	4,664	9,076
1990.....	65,998	3,010	5,443	10,128	18,675	10,816	3,936	4,779	9,211
1991.....	71,099	3,325	5,788	11,328	19,904	11,687	4,066	5,607	9,394
1992.....	74,555	3,306	5,946	12,439	21,010	12,433	4,281	6,088	9,052
1993.....	73,962	3,266	6,021	12,497	20,438	12,441	4,255	5,882	9,162
Women:									
1988.....	7,638	168	792	1,565	1,682	835	579	736	1,281
1989.....	8,162	180	796	1,649	1,822	855	639	908	1,313
1990.....	8,712	199	896	1,781	1,956	848	694	909	1,429
1991.....	9,703	254	985	2,019	2,165	942	746	1,042	1,550
1992.....	10,688	263	1,097	2,326	2,431	1,086	812	1,175	1,498
1993.....	11,210	291	1,163	2,539	2,445	1,185	802	1,165	1,620
Men:									
1988.....	55,428	2,365	4,567	8,381	16,024	9,591	2,887	3,558	8,055
1989.....	56,246	2,592	4,486	8,315	16,644	9,609	3,081	3,756	7,763
1990.....	57,286	2,811	4,547	8,347	16,719	9,968	3,242	3,870	7,782
1991.....	61,396	3,071	4,803	9,309	17,739	10,745	3,320	4,565	7,844
1992.....	63,867	3,043	4,849	10,113	18,579	11,347	3,469	4,913	7,554
1993.....	62,752	2,975	4,858	9,958	17,993	11,256	3,453	4,717	7,542

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering, 1993.

Appendix table 4-11. Top 50 institutions enrolling female graduate students in science and engineering, ranked by 1993 number of women enrolled in science and engineering: 1988–1993

Academic institution	1988	1989	1990	1991	1992	1993
All academic institutions.....	121,429	126,264	134,222	141,359	150,684	157,493
1 University of Minnesota, all campuses.....	1,613	1,748	1,711	1,791	1,876	2,000
2 University of Wisconsin-Madison.....	1,415	1,475	1,565	1,639	1,720	1,777
3 George Washington University.....	1,388	1,373	1,440	1,468	1,544	1,567
4 Rutgers the State Univ of NJ, all campuses.....	1,319	1,408	1,437	1,465	1,544	1,526
5 University of Michigan, all campuses.....	1,168	1,179	1,247	1,251	1,395	1,522
6 University of Colorado, all campuses.....	907	982	1,124	1,220	1,344	1,476
7 Indiana University, all campuses.....	705	912	1,252	1,331	1,419	1,472
8 University of California-Berkeley.....	1,295	1,293	1,398	1,377	1,409	1,447
9 New York University.....	1,094	1,301	1,252	1,386	1,325	1,421
10 Ohio State University, all campuses.....	1,164	1,160	1,132	1,330	1,325	1,390
Subtotal, first 10 institutions.....	12,068	12,831	13,558	14,258	14,901	15,598
11 University of Illinois at Urbana-Champaign.....	1,171	1,199	1,178	1,202	1,335	1,379
12 University of Southern California.....	1,616	1,500	1,228	1,238	1,368	1,369
13 University of Washington.....	1,135	1,183	1,275	1,311	1,332	1,325
14 Texas A&M University, all campuses.....	1,102	1,202	1,305	1,286	1,391	1,320
15 Cornell University, all campuses.....	1,010	1,034	1,051	1,097	1,308	1,298
16 University of Maryland at College Park.....	1,109	1,155	1,197	1,173	1,248	1,292
17 Harvard University.....	892	854	946	1,025	1,225	1,269
18 Pennsylvania State U, all campuses.....	1,124	1,144	1,168	1,207	1,218	1,257
19 University of California-Los Angeles.....	875	916	924	1,027	1,074	1,188
20 American University.....	620	690	765	846	1,052	1,186
Subtotal, first 20 institutions.....	22,722	23,708	24,595	25,670	27,452	28,481
21 University of Texas at Austin.....	898	931	923	1,047	1,104	1,155
22 Teachers College, Columbia University.....	1,067	1,026	968	1,029	1,063	1,131
23 University of Pittsburgh, all campuses.....	713	740	845	883	1,109	1,130
24 Antioch University, all campuses.....	843	758	846	1,108	1,139	1,105
25 University of Massachusetts Central Office.....	913	890	959	975	996	1,070
26 Michigan State University.....	767	863	854	900	958	1,060
27 Purdue University, all campuses.....	889	896	896	894	970	1,051
28 Stanford University.....	865	919	892	949	1,020	1,039
29 Arizona State University, main campus.....	672	690	792	844	989	1,035
30 University of North Carolina at Chapel Hill.....	832	913	943	913	979	1,031
Subtotal, first 30 institutions.....	31,181	32,334	33,513	35,212	37,779	39,288
31 Massachusetts Institute of Technology.....	794	853	942	961	967	1,020
32 Boston University.....	685	688	817	825	877	991
33 University of Florida.....	797	757	804	830	890	975
34 University of Houston.....	440	552	769	995	1,045	968
35 SUNY at Buffalo, all campuses.....	825	785	841	916	934	961
36 Nova Southeastern University.....	707	663	673	762	845	954
37 University of Arizona.....	871	880	857	881	901	939
38 Virginia Polytechnic Institute and State Univ.....	683	808	850	852	876	927
39 North Carolina State University at Raleigh.....	799	826	809	837	921	920
40 University of California-Davis.....	852	861	922	853	860	912
Subtotal, first 40 institutions.....	38,634	40,007	41,797	43,924	46,895	48,855
41 Iowa State University.....	796	793	828	821	838	898
42 George Mason University.....	638	681	752	759	801	896
43 SUNY at Albany.....	430	459	505	534	843	892
44 Louisiana State Univ, all campuses.....	625	605	664	732	809	888
45 Pepperdine University.....	510	540	581	730	818	883
46 St Mary's College of Minnesota.....	256	336	418	669	786	813
47 University of Illinois at Chicago.....	638	714	760	807	838	809
48 University of Connecticut, all campuses.....	621	636	694	749	803	809
49 University of Pennsylvania.....	759	817	790	797	785	804
50 Georgia Institute of Technology, all campuses.....	508	515	601	702	745	790
Total, first 50 institutions.....	44,415	46,103	48,390	51,224	54,961	57,337

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering, 1993.

Appendix table 4-12. Science and engineering graduate students in all institutions, by enrollment status, citizenship status, and race/ethnicity: 1988–1993

Enrollment status, citizenship status, and race/ethnicity	1988	1989	1990	1991	1992	1993
Total enrollment.....	375,579	383,227	397,866	413,559	431,444	438,052
Total U.S. citizens.....	281,901	285,134	295,018	304,856	322,027	332,525
Black.....	11,201	11,771	12,786	13,694	15,457	17,181
American Indian.....	920	861	1,053	1,120	1,240	1,318
Asian.....	15,176	15,650	17,128	18,072	21,840	24,401
Hispanic.....	9,102	9,438	10,180	11,064	12,278	13,446
White.....	229,233	230,130	239,109	244,359	254,096	258,278
Other or unknown.....	16,269	17,284	14,762	16,547	17,116	17,901
Non-U.S. citizens.....	93,678	98,093	102,848	108,703	109,417	105,527
Full-time enrollment.....	250,788	256,993	265,527	277,385	290,857	294,645
Total U.S. citizens.....	170,316	173,497	177,928	185,634	197,873	205,405
Black.....	6,063	6,577	7,011	7,671	8,924	9,939
American Indian.....	571	552	654	717	847	904
Asian.....	9,447	9,774	10,572	11,187	13,447	15,492
Hispanic.....	5,506	5,926	6,392	6,933	7,619	8,231
White.....	141,016	142,549	146,828	151,117	158,602	161,867
Other or unknown.....	7,713	8,119	6,471	8,009	8,434	8,972
Non-U.S. citizens.....	80,472	83,496	87,599	91,751	92,984	89,240
Part-time enrollment.....	124,791	126,234	132,339	136,174	140,587	143,407
Total U.S. citizens.....	111,585	111,637	117,090	119,222	124,154	127,120
Black.....	5,138	5,194	5,775	6,023	6,533	7,242
American Indian.....	349	309	399	403	393	414
Asian.....	5,729	5,876	6,556	6,885	8,393	8,909
Hispanic.....	3,596	3,512	3,788	4,131	4,659	5,215
White.....	88,217	87,581	92,281	93,242	95,494	96,411
Other or unknown.....	8,556	9,165	8,291	8,538	8,682	8,929
Non-U.S. citizens.....	13,206	14,597	15,249	16,952	16,433	16,287

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Women, Minorities, and Persons With Disabilities in Science and Engineering: 1996

Appendix table 4-13. Science and engineering graduate students in all institutions, by field, race/ethnicity, and citizenship: 1993

Field	Total	Race/ethnicity of U.S. citizens						Non-citizens
		White, non-Hispanic	Asian	Black, non-Hispanic	Hispanic	American Indian	Other or unknown	
Total science and engineering.....	438,052	258,278	24,401	17,181	13,446	1,318	17,901	105,527
Sciences.....	320,946	200,709	15,290	14,613	10,749	1,106	12,174	66,305
Physical sciences.....	35,395	18,636	1,974	843	751	81	870	12,240
Astronomy.....	880	580	24	12	13	3	31	217
Chemistry.....	20,142	10,678	1,185	594	472	54	491	6,668
Physics.....	13,907	7,068	734	211	256	22	337	5,279
Physical sciences, n.e.c.....	466	310	31	26	10	2	11	76
Earth, atmospheric, and ocean sciences.....	15,891	11,232	445	230	354	46	540	3,044
Atmospheric sciences.....	1,112	714	55	13	15	2	16	297
Geosciences.....	7,784	5,386	193	67	157	27	258	1,696
Oceanography.....	2,653	1,739	66	29	90	3	128	598
Earth, atmos, and ocean sciences, n.e.c.....	4,342	3,393	131	121	92	14	138	453
Mathematical sciences.....	20,164	10,657	1,076	721	425	33	1,149	6,103
Computer sciences.....	36,347	16,863	3,530	1,170	693	66	1,977	12,048
Agricultural sciences.....	11,943	7,740	262	261	307	34	209	3,130
Biological sciences.....	56,540	35,157	3,523	1,737	1,649	157	1,458	12,859
Anatomy.....	1,027	598	86	30	24	2	42	245
Biochemistry.....	5,528	2,831	475	112	126	18	101	1,865
Biology.....	14,395	9,583	850	616	560	47	649	2,090
Biometry/epidemiology.....	2,665	1,577	187	108	130	14	43	606
Biophysics.....	780	441	83	18	9	0	13	216
Botany.....	2,742	1,641	81	52	38	8	32	890
Cell biology.....	3,391	2,172	284	57	83	7	46	742
Ecology.....	1,410	1,084	29	14	36	6	64	177
Entomology/parasitology.....	1,247	758	50	23	34	1	29	352
Genetics.....	1,785	1,220	92	36	30	1	24	382
Microbiology, immunology, and virology....	5,053	3,044	369	150	163	11	68	1,248
Nutrition.....	4,320	2,452	207	155	104	14	78	1,310
Pathology.....	1,617	990	105	47	40	3	54	378
Pharmacology.....	2,655	1,594	206	99	61	12	49	634
Physiology.....	2,372	1,366	178	93	68	1	45	621
Zoology.....	2,120	1,653	56	18	50	4	44	295
Biological sciences, n.e.c.....	3,433	2,153	185	109	93	8	77	808
Psychology.....	55,219	43,254	1,477	3,304	2,601	296	2,380	1,907
Social sciences.....	89,447	57,170	3,003	6,347	3,969	393	3,591	14,974
Agricultural economics.....	2,415	1,149	41	78	70	4	42	1,031
Anthropology (cultural and social).....	7,378	5,592	148	176	264	80	305	813
Economics (except agricultural).....	13,314	6,094	713	404	339	19	563	5,182
Geography.....	4,378	3,364	107	111	109	24	146	517
Linguistics.....	3,387	1,828	144	62	172	4	132	1,045
Political science.....	35,555	24,226	1,079	3,254	1,897	140	1,404	3,555
Sociology.....	9,404	5,838	334	861	468	58	413	1,432
Sociology/anthropology.....	1,019	731	7	123	19	4	20	115
Social sciences, n.e.c.....	12,597	8,348	430	1,278	631	60	566	1,284

See explanatory information and SOURCE at end of table.

Appendix table 4-13. Science and engineering graduate students in all institutions, by field, race/ethnicity, and citizenship: 1993

Field	Total	Race/ethnicity of U.S. citizens						Non-citizens
		White, non-Hispanic	Asian	Black, non-Hispanic	Hispanic	American Indian	Other or unknown	
Engineering.....	117,106	57,569	9,111	2,568	2,697	212	5,727	39,222
Aerospace engineering.....	3,948	2,077	224	56	71	8	310	1,202
Agricultural engineering.....	1,018	467	47	10	7	0	4	483
Biomedical engineering.....	2,672	1,445	249	45	78	2	75	778
Chemical engineering.....	7,496	3,385	528	159	180	14	146	3,084
Civil engineering.....	19,675	10,462	1,143	393	551	44	724	6,358
Electrical engineering.....	35,377	15,694	3,759	865	837	44	1,746	12,432
Engineering science.....	2,185	1,223	141	44	40	2	68	667
Industrial eng./management science.....	13,648	7,455	894	444	334	37	1,048	3,436
Mechanical engineering.....	18,474	9,029	1,335	336	385	30	1,111	6,248
Metallurgical/materials engineering.....	5,367	2,543	335	73	76	4	171	2,165
Nuclear engineering.....	1,306	731	54	15	29	3	7	467
Engineering, n.e.c.....	5,940	3,058	402	128	109	24	317	1,902

KEY: n.e.c.= Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering, 1993.

Appendix table 4-14. Top 50 institutions enrolling Asian graduate students in science and engineering, ranked by 1993 total number of Asian graduate students enrolled: 1988–1993

Academic institution	1988	1989	1990	1991	1992	1993
All academic institutions.....	15,176	15,650	17,128	18,072	21,840	24,401
1 San Jose State University.....	126	187	373	450	805	730
2 University of Southern California.....	620	549	479	549	645	656
3 University of California-Los Angeles.....	295	312	350	396	535	619
4 University of Houston.....	110	194	459	536	526	577
5 Stanford University.....	345	314	411	409	416	501
6 University of California-Berkeley.....	282	291	357	360	389	423
7 California State University-Long Beach.....	208	242	251	281	413	366
8 Polytechnic University.....	146	154	126	149	152	359
9 University of Illinois at Urbana-Champaign.....	312	226	315	315	303	340
10 Massachusetts Institute of Technology.....	231	278	318	312	317	329
Subtotal, first 10 institutions.....	2,675	2,747	3,439	3,757	4,501	4,900
11 Rutgers the State Univ of NJ, all campuses.....	139	139	121	119	198	328
12 University of Hawaii at Manoa.....	242	255	234	266	265	314
13 University of Minnesota, all campuses.....	95	100	142	141	220	310
14 Santa Clara University.....	299	282	222	201	284	289
15 Columbia University in the City of New York.....	111	73	113	160	258	288
16 Purdue University, all campuses.....	112	94	89	94	130	287
17 George Washington University.....	92	96	120	142	248	273
18 George Mason University.....	96	128	150	166	167	267
19 University of Michigan, all campuses.....	95	158	116	169	210	262
20 Pennsylvania State U, all campuses.....	116	151	160	144	194	260
Subtotal, first 20 institutions.....	4,072	4,223	4,906	5,359	6,675	7,778
21 University of California-Irvine.....	113	134	128	157	191	255
22 New Jersey Institute of Technology.....	713	678	543	416	407	251
23 University of Washington.....	153	159	164	194	229	245
24 Georgia Institute of Technology, all campuses..	113	85	108	129	215	227
25 University of California-Davis.....	128	107	124	145	208	224
26 University of Illinois at Chicago.....	197	203	158	186	215	214
27 University of Maryland at College Park.....	165	166	172	175	195	213
28 University of Colorado, all campuses.....	72	88	139	161	165	208
29 Ohio State University, all campuses.....	54	46	102	102	212	203
30 Texas A&M University, all campuses.....	58	70	71	95	157	197
Subtotal, first 30 institutions.....	5,838	5,959	6,615	7,119	8,869	10,015
31 De Paul University.....	225	230	237	223	199	194
32 California State University-Northridge.....	71	83	80	140	219	174
33 Illinois Institute of Technology.....	71	93	126	120	144	171
34 University of California-San Diego.....	88	80	126	139	147	166
35 Wayne State University.....	28	71	134	126	195	166
36 CUNY City College.....	140	83	100	187	162	163
37 Harvard University.....	92	93	110	129	146	158
38 San Diego State University.....	93	103	112	106	157	152
39 California State University-Los Angeles.....	115	129	124	133	150	151
40 Cornell University, all campuses.....	123	133	146	153	152	149
Subtotal, first 40 institutions.....	6,884	7,057	7,910	8,575	10,540	11,659
41 SUNY at Stony Brook, all campuses.....	81	103	110	123	137	146
42 San Francisco State University.....	61	104	62	70	125	146
43 University of Texas at Austin.....	105	82	73	61	127	145
44 University of Texas at Arlington.....	123	136	119	159	135	145
45 Northwestern University.....	82	88	89	96	107	142
46 Johns Hopkins University.....	42	95	115	91	115	140
47 New York University.....	91	84	117	100	122	139
48 University of Pennsylvania.....	97	101	96	97	134	137
49 University of Wisconsin-Madison.....	141	148	127	133	135	136
50 University of Chicago.....	44	55	61	78	118	131
Total, first 50 institutions.....	7,751	8,053	8,879	9,583	11,795	13,066

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering, 1993.

Appendix table 4-15. Top 50 institutions enrolling black graduate students in science and engineering, ranked by 1993 total number of black graduate students enrolled: 1988–1993

Academic institution	1988	1989	1990	1991	1992	1993
All academic institutions.....	11,201	11,771	12,786	13,694	15,457	17,181
* 1 Howard University.....	459	439	444	400	374	444
2 Chicago State University.....	83	110	107	103	127	351
* 3 Clark Atlanta University.....	177	128	170	224	286	275
4 Georgia Institute of Technology, all campuses.....	86	103	146	180	246	258
5 University of Michigan, all campuses.....	126	148	155	186	225	237
* 6 Jackson State University.....	147	185	196	179	175	217
7 New York University.....	146	130	154	193	201	214
8 Long Island University, all campuses.....	103	84	119	134	185	197
9 George Washington University.....	141	121	147	152	191	194
10 University of Maryland at College Park.....	126	152	156	167	161	186
Subtotal, first 10 institutions.....	1,594	1,600	1,794	1,918	2,171	2,573
11 Teachers College, Columbia University.....	132	131	128	132	139	174
* 12 Southern University A&M Col, all campuses.....	79	93	171	165	158	172
13 California State University-Dominguez Hills.....	101	124	146	148	160	161
14 Rutgers the State Univ of NJ, all campuses.....	119	134	144	141	167	160
15 American University.....	68	72	89	96	153	154
16 University of Southern California.....	199	190	136	118	141	152
17 CUNY John Jay College of Criminal Justice.....	116	118	131	136	146	151
18 Wayne State University.....	91	135	133	146	164	149
19 Louisiana State Univ, all campuses.....	74	74	96	95	122	148
20 Georgia State University.....	116	128	127	116	129	147
Subtotal, first 20 institutions.....	2,689	2,799	3,095	3,211	3,650	4,141
* 21 North Carolina Agricultural & Tech State Univ.....	78	95	100	104	116	146
22 Ohio State University, all campuses.....	98	99	101	118	136	145
23 CUNY City College.....	102	70	92	126	125	145
24 De Paul University.....	99	124	111	121	123	144
* 25 Prairie View A&M University.....	77	75	72	78	104	135
26 Michigan State University.....	54	73	64	89	123	133
27 Indiana University, all campuses.....	27	33	90	95	137	132
* 28 Texas Southern University.....	92	103	97	107	101	131
29 Virginia Commonwealth University.....	87	87	114	102	110	130
30 Roosevelt University.....	100	88	78	73	85	121
Subtotal, first 30 institutions.....	3,503	3,646	4,014	4,224	4,810	5,503
31 North Carolina State University at Raleigh.....	125	120	119	114	133	120
32 University of North Carolina at Chapel Hill.....	72	66	78	69	101	119
* 33 Florida Agricultural and Mechanical University.....	82	75	66	87	85	116
* 34 Alabama Agricultural and Mechanical Univ.....	60	71	87	90	99	115
35 University of California-Berkeley.....	105	118	104	119	121	111
36 University of Florida.....	94	93	99	88	110	110
37 Governors State University.....	41	56	93	120	121	110
38 University of Houston.....	27	36	64	98	109	106
39 Virginia Polytechnic Institute and State Univ.....	21	39	62	70	74	104
40 University of Detroit Mercy.....	24	56	53	71	73	104
Subtotal, first 40 institutions.....	4,154	4,376	4,839	5,150	5,836	6,618
41 Harvard University.....	73	85	92	98	103	104
42 University of Illinois at Chicago.....	58	64	75	95	104	103
43 Pennsylvania State U, all campuses.....	90	90	84	86	95	100
44 Massachusetts Institute of Technology.....	76	76	72	74	98	99
45 Illinois Institute of Technology.....	55	43	67	65	65	97
* 46 North Carolina Central University.....	55	45	64	62	57	95
47 University of Pittsburgh, all campuses.....	56	66	70	51	72	93
48 University of Baltimore.....	69	76	79	77	87	93
49 University of Illinois at Urbana-Champaign.....	47	57	77	73	84	91
50 University of Cincinnati, all campuses.....	65	65	63	61	71	91
Total, first 50 institutions.....	4,798	5,043	5,582	5,892	6,672	7,584

KEY: * = Indicates Historically Black Colleges or Universities (HBCUs)

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering, 1993.

Appendix table 4-16. Top 50 institutions enrolling Hispanic graduate students in science and engineering, ranked by 1993 total number of Hispanic graduate students enrolled: 1988–1993

Academic institution	1988	1989	1990	1991	1992	1993
All academic institutions.....	9,102	9,438	10,180	11,064	12,278	13,446
* 1 University of Puerto Rico, Rio Piedras Campus.....	901	963	1,058	957	1,047	1,093
* 2 University of Puerto Rico, Mayaguez Campus.....	291	243	233	254	279	345
* 3 Florida International University.....	78	171	177	190	216	248
4 University of California-Berkeley.....	133	146	154	174	194	198
5 University of Southern California.....	256	207	144	173	189	189
* 6 Texas A&M University, all campuses.....	188	226	192	195	207	183
7 Center for Adv Stud on Puerto Rico and Caribbn.....	235	205	208	365	162	178
* 8 University of New Mexico, all campuses.....	129	156	134	143	182	172
9 University of Texas at Austin.....	115	130	117	136	154	168
10 University of Texas at El Paso.....	146	190	198	182	184	166
Subtotal, first 10 institutions.....	2,472	2,637	2,615	2,769	2,814	2,940
11 University of Miami.....	147	107	109	117	131	158
12 University of Colorado, all campuses.....	73	80	96	107	142	147
13 University of Michigan, all campuses.....	80	87	94	116	132	141
14 University of California-Los Angeles.....	81	99	88	124	121	140
15 Stanford University.....	78	73	126	146	122	139
16 California State University-Long Beach.....	73	100	106	106	134	136
* 17 Texas A&M University, Kingsville.....	53	40	61	78	122	134
* 18 University of PR, Medical Sciences Campus.....	59	80	70	112	89	133
* 19 California State University-Los Angeles.....	104	102	117	132	138	131
20 Nova Southeastern University.....	55	59	80	54	102	125
Subtotal, first 20 institutions.....	3,275	3,464	3,562	3,861	4,047	4,324
* 21 New Mexico State University, all campuses.....	68	82	96	98	118	124
22 California State University-Northridge.....	21	27	27	55	101	123
23 University of Arizona.....	73	72	104	86	106	121
24 University of Houston.....	48	58	60	128	125	120
25 Arizona State University, main campus.....	58	69	83	104	115	117
26 University of Florida.....	76	74	87	94	97	116
27 University of Wisconsin-Madison.....	73	82	71	74	87	107
28 Harvard University.....	65	52	50	59	98	104
29 Georgia Institute of Technology, all campuses.....	80	64	75	89	99	104
* 30 San Diego State University.....	59	51	83	76	113	100
Subtotal, first 30 institutions.....	3,896	4,095	4,298	4,724	5,106	5,460
31 University of California-Davis.....	62	65	76	80	93	99
32 University of South Florida.....	56	58	55	86	99	98
33 George Washington University.....	73	68	76	87	107	96
34 Rutgers the State Univ of NJ, all campuses.....	86	77	78	77	79	93
35 New York University.....	89	91	77	89	99	91
36 CUNY City College.....	69	57	66	79	86	89
37 American University.....	41	57	45	50	68	87
38 CUNY John Jay College of Criminal Justice.....	53	49	53	65	74	87
39 University of California-San Diego.....	44	42	55	56	74	82
40 Teachers College, Columbia University.....	81	75	84	85	85	81
Subtotal, first 40 institutions.....	4,550	4,734	4,963	5,478	5,970	6,363
41 University of Illinois at Urbana-Champaign.....	64	60	59	60	65	79
42 Polytechnic University (New York).....	40	39	31	30	39	79
43 Cornell University, all campuses.....	67	58	62	65	66	79
44 Massachusetts Institute of Technology.....	43	59	58	61	77	76
45 Long Island University, all campuses.....	16	9	30	89	110	74
* 46 University of Texas at San Antonio.....	21	30	59	60	71	73
47 Pennsylvania State U, all campuses.....	29	35	44	51	46	73
48 San Jose State University.....	41	49	56	63	72	72
49 CUNY Graduate School and University Center.....	80	59	64	54	65	71
50 University of Washington.....	40	49	48	54	54	70
Total, first 50 institutions.....	4,991	5,181	5,474	6,065	6,635	7,109

KEY = * = Indicates member of the Hispanic Association of Colleges and Universities

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering, 1993.

Appendix table 4-17. Top 50 institutions enrolling American Indian graduate students in science and engineering, ranked by 1993 total number of American Indian graduate students enrolled: 1988–1993

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Academic institution	1988	1989	1990	1991	1992	1993
All academic institutions.....	920	861	1,053	1,120	1,240	1,318
1 University of Oklahoma, all campuses.....	23	23	27	33	42	45
2 Northern Arizona University.....	18	17	54	24	30	33
3 Northeastern State University.....	0	0	17	20	25	26
4 University of Colorado, all campuses.....	11	15	15	19	19	25
5 Oklahoma State University, all campuses.....	22	22	15	24	24	25
6 Harvard University.....	8	8	14	17	20	23
7 Cornell University, all campuses.....	8	11	10	9	16	22
8 University of Arizona.....	10	18	16	13	21	21
9 University of Minnesota, all campuses.....	14	4	9	3	12	20
10 University of Washington.....	14	14	9	14	17	18
Subtotal, first 10 institutions.....	128	132	186	176	226	258
11 CUNY College of Staten Island.....	0	0	0	0	18	18
12 University of New Mexico, all campuses.....	29	25	26	23	20	18
13 University of California-Los Angeles.....	5	7	7	11	16	16
14 University of California-Berkeley.....	13	20	14	11	13	16
15 University of Wisconsin-Madison.....	16	11	14	13	12	16
16 New Mexico State University, all campuses.....	7	6	5	7	9	16
17 George Washington University.....	1	5	9	15	22	15
18 Arizona State University, main campus.....	8	7	6	12	15	15
19 Stanford University.....	14	19	15	17	16	14
20 University of Michigan, all campuses.....	13	9	21	10	14	14
Subtotal, first 20 institutions.....	234	241	303	295	381	416
21 Ohio State University, all campuses.....	3	3	3	13	9	14
22 San Diego State University.....	5	6	5	4	12	14
23 University of Maryland at College Park.....	4	3	5	5	8	11
24 California State University-Fullerton.....	9	8	5	5	10	10
25 University of North Carolina at Chapel Hill.....	7	10	14	9	12	10
26 California School Prof Psych at Los Angeles.....	0	1	6	6	9	10
27 Utah State University.....	10	11	9	15	20	10
28 Colorado State University.....	9	6	4	6	7	10
29 University of Denver.....	2	3	1	3	5	10
30 Auburn University, all campuses.....	2	2	1	5	8	10
Subtotal, first 30 institutions.....	285	294	356	366	481	525
31 University of Illinois at Chicago.....	17	3	4	6	6	9
32 Texas A&M University, all campuses.....	6	9	13	12	9	9
33 University of Florida.....	8	7	9	10	6	9
34 University of Kansas, all campuses.....	4	6	4	4	8	9
35 University of Idaho.....	1	0	2	3	5	9
36 San Jose State University.....	12	9	8	10	6	8
37 University of Southern California.....	7	4	6	4	4	8
38 University of Houston.....	1	6	12	14	16	8
39 California State University-Los Angeles.....	5	3	4	4	3	8
40 University of Texas at Austin.....	3	4	9	8	7	8
Subtotal, first 40 institutions.....	349	345	427	441	551	610
41 Michigan State University.....	5	7	6	7	8	8
42 California State University-Fresno.....	9	4	4	7	3	8
43 University of Tennessee at Knoxville.....	2	1	6	8	7	8
44 Mississippi State University.....	1	1	0	3	2	8
45 John F. Kennedy University.....	0	0	5	7	9	8
46 University of Wisconsin-Milwaukee.....	5	6	8	11	9	8
47 Oakland University.....	1	1	0	0	1	8
48 University of Akron, all campuses.....	0	0	2	4	10	8
49 Miami University, all campuses.....	0	1	1	1	0	8
50 Humboldt State University.....	0	0	0	15	12	8
Total, first 50 institutions.....	372	366	459	504	612	690

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering, 1993.

Appendix table 4-18. Selected characteristics of graduate students with disabilities, by control of institution and program of study: 1993

[Percent distribution]

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Characteristic	Control of institution		Program of study	
	Public 4-year	Independent 4-year	Master's	Doctorate
Veteran status:				
No.....	86	85	82	77
Yes.....	14	15	18	23
Total.....	100	100	100	100
Attendance status:				
Full-time.....	35	30	18	12
Part-time.....	65	70	82	88
Total.....	100	100	100	100
Major field of study:				
Humanities.....	8	11	9	4
Social behavior.....	8	10	10	5
Life science.....	8	5	7	4
Physical science.....	4	2	1	5
Mathematics.....	3	2	2	5
Computer information/science.....	3	2	3	3
Engineering.....	8	1	3	3
Education.....	32	35	45	30
Business/management.....	9	12	9	22
Health.....	7	9	6	6
Vocational/technical.....	1	1	2	0
Other technical.....	0	0	0	0
Other.....	9	10	3	13
Total.....	100	100	100	100

SOURCE: Henderson, Cathy. 1995. Special Report to the National Science Foundation on Postbaccalaureate Students with Disabilities. Tabulations of data from the U.S. Department of Education/NCES 1992-93 National Postsecondary Student Aid Study.

Women, Minorities, and Persons With Disabilities in Science and Engineering: 1996

Appendix table 4-19. Master's and doctoral degrees in all fields and in science and engineering, by sex: 1966–1993

Field and year	Master's			Doctorate		
	Men	Women	Percent women	Men	Women	Percent women
Total, all fields:						
1966.....	93,184	47,588	33.8	15,863	2,086	11.6
1967.....	103,179	54,713	34.7	17,961	2,442	12.0
1968.....	113,749	63,401	35.8	20,005	2,932	12.8
1969.....	121,881	72,533	37.3	22,355	3,388	13.2
1970.....	126,146	83,241	39.8	25,527	3,971	13.5
1971.....	138,590	92,896	40.1	27,271	4,596	14.4
1972.....	150,085	102,689	40.6	27,754	5,287	16.0
1973.....	155,000	109,525	41.4	27,670	6,085	18.0
1974.....	158,344	119,915	43.1	26,594	6,453	19.5
1975.....	162,115	131,536	44.8	25,751	7,201	21.9
1976.....	167,745	145,256	46.4	25,262	7,684	23.3
1977.....	168,210	150,031	47.1	23,858	7,858	24.8
1978.....	161,708	151,108	48.3	22,553	8,322	27.0
1979.....	153,772	148,303	49.1	22,302	8,937	28.6
1980.....	151,159	147,936	49.5	21,612	9,408	30.3
1981.....	147,431	149,367	50.3	21,464	9,892	31.5
1982.....	145,941	150,639	50.8	21,018	10,093	32.4
1983.....	145,114	145,817	50.1	20,749	10,533	33.7
1984.....	143,998	141,464	49.6	20,638	10,699	34.1
1985.....	143,716	143,497	50.0	20,554	10,744	34.3
1986.....	143,932	145,897	50.3	20,594	11,305	35.4
1987.....	141,655	149,777	51.4	20,939	11,428	35.3
1988.....	145,403	154,688	51.5	21,681	11,818	35.3
1989.....	149,399	161,651	52.0	21,812	12,512	36.5
1990.....	154,025	170,922	52.6	22,962	13,106	36.3
1991.....	156,895	181,603	53.6	23,647	13,870	37.0
1992.....	162,299	191,908	54.2	24,433	14,420	37.1
1993.....	169,753	201,220	54.2	24,646	15,108	38.0

See explanatory information and SOURCES at end of table.

Appendix table 4-19. Master's and doctoral degrees in all fields and in science and engineering, by sex: 1966–1993

Field and year	Master's			Doctorate		
	Men	Women	Percent women	Men	Women	Percent women
Science and engineering:						
1966.....	35,580	5,469	13.3	10,646	924	8.0
1967.....	38,682	6,306	14.0	12,013	1,096	8.4
1968.....	41,551	7,209	14.8	13,328	1,317	9.0
1969.....	44,182	8,200	15.7	14,781	1,507	9.3
1970.....	43,973	9,722	18.1	16,404	1,648	9.1
1971.....	46,116	10,338	18.3	17,385	1,996	10.3
1972.....	48,721	11,328	18.9	17,191	2,151	11.1
1973.....	50,233	11,813	19.0	16,853	2,520	13.0
1974.....	49,528	12,711	20.4	16,043	2,671	14.3
1975.....	49,410	13,788	21.8	15,870	2,929	15.6
1976.....	49,992	15,015	23.1	15,375	3,097	16.8
1977.....	50,899	16,498	24.5	14,775	3,233	18.0
1978.....	50,034	17,230	25.6	14,199	3,454	19.6
1979.....	46,614	17,612	27.4	14,128	3,744	20.9
1980.....	46,004	18,085	28.2	13,814	3,961	22.3
1981.....	45,505	18,861	29.3	14,056	4,201	23.0
1982.....	46,557	20,011	30.1	13,925	4,350	23.8
1983.....	46,718	20,998	31.0	13,920	4,715	25.3
1984.....	47,033	21,531	31.4	13,956	4,792	25.6
1985.....	48,232	22,330	31.6	14,045	4,891	25.8
1986.....	48,611	23,220	32.3	14,270	5,167	26.6
1987.....	48,759	23,844	32.8	14,582	5,312	26.7
1988.....	49,820	23,835	32.4	15,271	5,662	27.0
1989.....	50,845	25,580	33.5	15,622	6,109	28.1
1990.....	51,230	26,558	34.1	16,498	6,370	27.9
1991.....	50,441	27,927	35.6	17,087	6,931	28.9
1992.....	52,157	28,950	35.7	17,594	7,082	28.7
1993.....	55,454	30,971	35.8	17,786	7,652	30.1

See explanatory information and SOURCES at end of table.

Appendix table 4-19. Master's and doctoral degrees in all fields and in science and engineering, by sex: 1966–1993

Field and year	Master's			Doctorate		
	Men	Women	Percent women	Men	Women	Percent women
All other fields:						
1966.....	57,604	42,119	42.2	5,217	1,162	18.2
1967.....	64,497	48,407	42.9	5,948	1,346	18.5
1968.....	72,198	56,192	43.8	6,677	1,615	19.5
1969.....	77,699	64,333	45.3	7,574	1,881	19.9
1970.....	82,173	73,519	47.2	9,123	2,323	20.3
1971.....	92,474	82,558	47.2	9,886	2,600	20.8
1972.....	101,364	91,361	47.4	10,563	3,136	22.9
1973.....	104,767	97,712	48.3	10,817	3,565	24.8
1974.....	108,816	107,204	49.6	10,551	3,782	26.4
1975.....	112,705	117,748	51.1	9,881	4,272	30.2
1976.....	117,753	130,241	52.5	9,887	4,587	31.7
1977.....	117,311	133,533	53.2	9,083	4,625	33.7
1978.....	111,674	133,878	54.5	8,354	4,868	36.8
1979.....	107,158	130,691	54.9	8,174	5,193	38.8
1980.....	105,155	129,851	55.3	7,798	5,447	41.1
1981.....	101,926	130,506	56.1	7,408	5,691	43.4
1982.....	99,384	130,628	56.8	7,093	5,743	44.7
1983.....	98,396	124,819	55.9	6,829	5,818	46.0
1984.....	96,965	119,933	55.3	6,682	5,907	46.9
1985.....	95,484	121,167	55.9	6,509	5,853	47.3
1986.....	95,321	122,677	56.3	6,324	6,138	49.3
1987.....	92,896	125,933	57.5	6,357	6,116	49.0
1988.....	95,583	130,853	57.8	6,410	6,156	49.0
1989.....	98,554	136,071	58.0	6,190	6,403	50.8
1990.....	102,795	144,364	58.4	6,464	6,736	51.0
1991.....	106,454	153,676	59.1	6,560	6,939	51.4
1992.....	110,142	162,958	59.7	6,839	7,338	51.8
1993.....	114,299	170,249	59.8	6,860	7,456	52.1

NOTE: Field totals for doctoral degrees presented in this table differ slightly from those in later tables because the field taxonomy used here was revised to match that for bachelor's and master's degrees.

SOURCES: U.S. Department of Education/NCES. HEGIS Earned Degrees Surveys, 1981–85, and IPEDS Completion Surveys, 1987–91; tabulations by National Science Foundation/SRS; and National Science Foundation/SRS. Survey of Earned Doctorates.

Appendix table 4-20. Master's degrees, by major field group and sex: 1983–1993

Sex and year	All fields	Science and engineering fields								All other fields
		Total	Engineering	Physical sciences	Earth, atmos, and ocean sciences	Mathematical/computer sciences	Biological/agricultural	Psychology	Social sciences	
Both sexes:										
1983.....	290,931	67,733	18,886	3,285	1,959	8,177	9,136	8,439	17,851	223,198
1984.....	285,462	68,582	20,145	3,544	1,982	8,960	8,702	8,073	17,176	216,880
1985.....	287,213	70,578	20,972	3,605	2,160	10,004	8,208	8,481	17,148	216,635
1986.....	289,829	71,840	21,096	3,649	2,234	11,254	8,023	8,363	17,221	217,989
1987.....	290,532	72,603	22,070	3,574	2,051	11,808	7,775	8,165	17,160	217,929
1988.....	300,091	73,655	22,726	3,708	1,920	12,600	7,556	7,925	17,220	226,436
1989.....	311,050	76,425	23,743	3,876	1,819	12,829	7,523	8,652	17,983	234,625
1990.....	324,947	77,788	23,995	3,805	1,596	13,327	7,527	9,308	18,230	247,159
1991.....	338,498	78,368	24,013	3,777	1,499	12,956	7,406	9,802	18,915	260,130
1992.....	354,207	81,107	25,018	3,922	1,425	13,320	7,885	9,852	19,685	273,100
1993.....	370,973	86,425	27,664	3,965	1,397	14,100	8,112	10,412	20,775	284,548
Men:										
1983.....	145,114	46,734	17,131	2,600	1,515	5,684	5,703	3,254	10,847	98,380
1984.....	143,998	47,049	18,045	2,698	1,517	6,185	5,303	2,980	10,321	96,949
1985.....	143,716	48,247	18,728	2,775	1,639	6,951	4,881	3,064	10,209	95,469
1986.....	143,932	48,621	18,696	2,736	1,717	7,724	4,679	2,937	10,132	95,311
1987.....	141,655	48,759	19,300	2,684	1,531	8,011	4,437	2,838	9,958	92,896
1988.....	145,403	49,820	19,918	2,817	1,433	8,759	4,312	2,599	9,982	95,583
1989.....	149,399	50,845	20,661	2,836	1,337	8,833	4,210	2,814	10,154	98,554
1990.....	154,025	51,230	20,726	2,754	1,218	9,176	4,080	3,025	10,251	102,795
1991.....	156,895	50,441	20,656	2,703	1,116	8,709	3,975	2,994	10,288	106,454
1992.....	162,299	52,157	21,349	2,834	1,057	9,199	4,227	2,929	10,562	110,142
1993.....	169,753	55,454	23,570	2,794	1,006	9,773	4,381	2,928	11,002	114,299
Women:										
1983.....	145,817	20,999	1,755	685	444	2,493	3,433	5,185	7,004	124,818
1984.....	141,464	21,533	2,100	846	465	2,775	3,399	5,093	6,855	119,931
1985.....	143,497	22,331	2,244	830	521	3,053	3,327	5,417	6,939	121,166
1986.....	145,897	23,219	2,400	913	517	3,530	3,344	5,426	7,089	122,678
1987.....	148,877	23,844	2,770	890	520	3,797	3,338	5,327	7,202	125,033
1988.....	154,688	23,835	2,808	891	487	3,841	3,244	5,326	7,238	130,853
1989.....	161,651	25,580	3,082	1,040	482	3,996	3,313	5,838	7,829	136,071
1990.....	170,922	26,558	3,269	1,051	378	4,151	3,447	6,283	7,979	144,364
1991.....	181,603	27,927	3,357	1,074	383	4,247	3,431	6,808	8,627	153,676
1992.....	191,908	28,950	3,669	1,088	368	4,121	3,658	6,923	9,123	162,958
1993.....	201,220	30,971	4,094	1,171	391	4,327	3,731	7,484	9,773	170,249
Percent women:										
1983.....	50.1	31.0	9.3	20.9	22.7	30.5	37.6	61.4	39.2	56.0
1984.....	49.6	31.4	10.4	23.9	23.5	31.0	39.1	63.1	39.9	55.0
1985.....	50.0	31.6	10.7	23.0	24.1	30.5	40.5	63.9	40.5	56.0
1986.....	50.3	32.3	11.4	25.0	23.1	31.4	41.7	64.9	41.2	56.0
1987.....	51.2	32.8	12.6	24.9	25.4	32.2	42.9	65.2	42.0	57.0
1988.....	51.5	32.4	12.4	24.0	25.4	30.5	42.9	67.2	42.0	58.0
1989.....	52.0	33.5	13.0	26.8	26.5	31.1	44.0	67.5	43.5	58.0
1990.....	52.6	34.1	13.6	27.6	23.7	31.1	45.8	67.5	43.8	58.0
1991.....	53.6	35.6	14.0	28.4	25.6	32.8	46.3	69.5	45.6	59.0
1992.....	54.2	35.7	14.7	27.7	25.8	30.9	46.4	70.3	46.3	60.0
1993.....	54.2	35.8	14.8	29.5	28.0	30.7	46.0	71.9	47.0	60.0

SOURCES: Tabulations by National Science Foundation/SRS; data from U.S. Department of Education/NCES Survey of Degrees and Other Formal Awards Conferred, and Completions Survey.

Appendix table 4-21. Master's degrees awarded to U.S. citizens and permanent residents, by field and race/ethnicity of recipient: 1985–1993, selected years

Field and race/ethnicity	1985	1987	1989	1990	1991	1992	1993
Total, U.S. citizens and permanent residents:							
Total science and engineering.....	50,751	50,330	51,491	52,120	52,849	54,772	57,720
Sciences.....	36,291	34,890	35,811	36,530	37,300	38,801	40,345
Natural sciences.....	19,061	18,900	18,722	18,373	17,935	18,310	18,598
Physical science.....	4,583	4,271	4,232	3,829	3,562	3,571	3,558
Mathematical science.....	2,152	2,331	2,309	2,480	2,451	2,684	2,735
Computer science.....	5,233	5,848	6,061	6,149	6,076	5,992	6,054
Biological science.....	4,568	4,239	4,169	3,970	3,870	3,822	3,761
Agricultural science.....	2,525	2,211	1,951	1,945	1,976	2,241	2,490
Social sciences.....	17,230	15,990	17,089	18,157	19,365	20,491	21,747
Social science.....	9,074	8,497	9,095	9,632	10,328	11,082	11,682
Psychology.....	8,156	7,493	7,994	8,525	9,037	9,409	10,065
Engineering.....	14,460	15,440	15,680	15,590	15,549	15,971	17,375
Non-science and -engineering.....	203,650	196,609	211,675	218,766	232,411	243,487	252,729
Grand total.....	254,401	246,939	263,166	270,886	285,260	298,259	310,449
White, non-Hispanic:							
Total science and engineering.....	43,982	43,360	43,945	44,450	44,513	45,649	47,975
Sciences.....	31,796	30,523	31,113	31,591	31,878	32,897	34,055
Natural sciences.....	16,735	16,352	16,080	15,742	15,005	15,136	15,322
Physical science.....	4,133	3,834	3,766	3,401	3,129	3,067	3,078
Mathematical science.....	1,873	2,012	2,032	2,169	2,068	2,336	2,354
Computer science.....	4,303	4,717	4,786	4,851	4,637	4,407	4,464
Biological science.....	4,081	3,745	3,679	3,501	3,353	3,251	3,144
Agricultural science.....	2,345	2,044	1,817	1,820	1,818	2,075	2,282
Social sciences.....	15,061	14,171	15,033	15,849	16,873	17,761	18,733
Social science.....	7,841	7,473	7,958	8,360	8,900	9,523	9,923
Psychology.....	7,220	6,698	7,075	7,489	7,973	8,238	8,810
Engineering.....	12,186	12,837	12,832	12,859	12,635	12,752	13,920
Non-science and -engineering.....	179,667	173,447	186,377	192,424	203,011	211,413	217,693
Grand total.....	223,649	216,807	230,322	236,874	247,524	257,062	265,668
Asian:							
Total science and engineering.....	3,285	3,455	4,100	4,055	4,310	4,763	4,846
Sciences.....	1,734	1,805	2,108	2,192	2,302	2,540	2,586
Natural sciences.....	1,229	1,426	1,617	1,629	1,735	1,916	1,918
Physical science.....	213	227	278	234	251	295	249
Mathematical science.....	164	183	178	184	189	201	197
Computer science.....	615	779	894	941	1,014	1,105	1,106
Biological science.....	179	190	223	225	231	264	305
Agricultural science.....	58	47	44	45	50	51	61
Social sciences.....	505	379	491	563	567	624	668
Social science.....	376	266	360	404	397	441	477
Psychology.....	129	113	131	159	170	183	191
Engineering.....	1,551	1,650	1,992	1,863	2,008	2,223	2,260
Non-science and -engineering.....	4,520	4,674	6,074	5,939	6,760	7,530	8,323
Grand total.....	7,805	8,129	10,174	9,994	11,070	12,293	13,169

See explanatory information and SOURCES at end of table.

Appendix table 4-21. Master's degrees awarded to U.S. citizens and permanent residents, by field and race/ethnicity of recipient: 1985–1993, selected years

Field and race/ethnicity	1985	1987	1989	1990	1991	1992	1993
Black, non-Hispanic:							
Total science and engineering.....	1,742	1,784	1,652	1,847	2,090	2,356	2,554
Sciences.....	1,412	1,381	1,297	1,460	1,692	1,890	1,990
Natural sciences.....	523	581	495	527	644	699	716
Physical science.....	89	79	78	87	73	98	105
Mathematical science.....	53	73	59	70	100	77	98
Computer science.....	180	207	198	232	283	316	308
Biological science.....	151	167	124	110	137	149	135
Agricultural science.....	50	55	36	28	51	59	70
Social sciences.....	889	800	802	933	1,048	1,191	1,274
Social science.....	463	424	407	462	594	660	730
Psychology.....	426	376	395	471	454	531	544
Engineering.....	330	403	355	387	398	466	564
Non-science and -engineering.....	12,218	11,389	11,803	12,626	13,767	15,064	16,343
Grand total.....	13,960	13,173	13,455	14,473	15,857	17,420	18,897
Hispanic:							
Total science and engineering.....	1,514	1,584	1,585	1,587	1,736	1,806	2,092
Sciences.....	1,168	1,072	1,117	1,141	1,268	1,318	1,511
Natural sciences.....	481	493	444	431	494	503	574
Physical science.....	127	122	92	98	96	93	114
Mathematical science.....	55	60	34	51	85	66	78
Computer science.....	94	123	144	118	128	149	162
Biological science.....	139	126	126	120	136	146	151
Agricultural science.....	66	62	48	44	49	49	69
Social sciences.....	687	579	673	710	774	815	937
Social science.....	343	308	313	341	383	396	474
Psychology.....	344	271	360	369	391	419	463
Engineering.....	346	512	468	446	468	488	581
Non-science and -engineering.....	6,216	6,197	6,548	6,908	7,948	8,450	9,279
Grand total.....	7,730	7,781	8,133	8,495	9,684	10,256	11,371
American Indian:							
Total science and engineering.....	228	147	209	181	200	198	253
Sciences.....	181	109	176	146	160	156	203
Natural sciences.....	93	48	86	44	57	56	68
Physical science.....	21	9	18	9	13	18	12
Mathematical science.....	7	3	6	6	9	4	8
Computer science.....	41	22	39	7	14	15	14
Biological science.....	18	11	17	14	13	12	26
Agricultural science.....	6	3	6	8	8	7	8
Social sciences.....	88	61	90	102	103	100	135
Social science.....	51	26	57	65	54	62	78
Psychology.....	37	35	33	37	49	38	57
Engineering.....	47	38	33	35	40	42	50
Non-science and -engineering.....	1,029	902	873	869	925	1,030	1,091
Grand total.....	1,257	1,049	1,082	1,050	1,125	1,228	1,344

NOTES: Data on race/ethnicity were collected biennially from 1977 through 1989 and annually thereafter. Data on race/ethnicity of degree recipients are collected on broad fields of study only; therefore, these data could not be adjusted to the exact field taxonomies used by NSF. Racial/ethnic categories as designated on the survey form. These categories include U.S. citizens and foreign citizens on permanent visas (i.e., resident aliens who have been admitted for permanent residency).

SOURCES: Tabulations by National Science Foundation/SRS; data from U.S. Department of Education/NCES biennial data from the HEGIS Earned Degrees Surveys, 1985, and IPEDS Completions Surveys, 1987–93.

Appendix table 4-22. Master's degrees awarded to U.S. citizens and permanent residents, by sex of recipient, field, and race/ethnicity: 1993

Page 1 of 1

Sex and field	Total	White, non-Hispanic	Asian	Black, non-Hispanic	Hispanic	American Indian
Both sexes:						
Total science and engineering.....	57,720	47,975	4,846	2,554	2,092	253
Sciences.....	40,345	34,055	2,586	1,990	1,511	203
Natural sciences.....	18,598	15,322	1,918	716	574	68
Physical science.....	3,558	3,078	249	105	114	12
Mathematical science.....	2,735	2,354	197	98	78	8
Computer science.....	6,054	4,464	1,106	308	162	14
Biological science.....	3,761	3,144	305	135	151	26
Agricultural science.....	2,490	2,282	61	70	69	8
Social sciences.....	21,747	18,733	668	1,274	937	135
Social science.....	11,682	9,923	477	730	474	78
Psychology.....	10,065	8,810	191	544	463	57
Engineering.....	17,375	13,920	2,260	564	581	50
Non-science and -engineering.....	252,729	217,693	8,323	16,343	9,279	1,091
Grand total.....	310,449	265,668	13,169	18,897	11,371	1,344
Men:						
Total science and engineering.....	35,367	29,493	3,237	1,253	1,255	129
Sciences.....	20,847	17,716	1,418	846	775	92
Natural sciences.....	11,750	9,837	1,149	386	341	37
Physical science.....	2,521	2,229	150	58	76	8
Mathematical science.....	1,555	1,332	121	48	50	4
Computer science.....	4,344	3,326	710	193	104	11
Biological science.....	1,861	1,593	136	47	76	9
Agricultural science.....	1,469	1,357	32	40	35	5
Social sciences.....	9,097	7,879	269	460	434	55
Social science.....	6,344	5,453	219	345	282	45
Psychology.....	2,753	2,426	50	115	152	10
Engineering.....	14,520	11,777	1,819	407	480	37
Non-science and -engineering.....	97,378	84,224	3,888	5,219	3,620	427
Grand total.....	132,745	113,717	7,125	6,472	4,875	556
Women:						
Total science and engineering.....	22,353	18,482	1,609	1,301	837	124
Sciences.....	19,498	16,339	1,168	1,144	736	111
Natural sciences.....	6,848	5,485	769	330	233	31
Physical science.....	1,037	849	99	47	38	4
Mathematical science.....	1,180	1,022	76	50	28	4
Computer science.....	1,710	1,138	396	115	58	3
Biological science.....	1,900	1,551	169	88	75	17
Agricultural science.....	1,021	925	29	30	34	3
Social sciences.....	12,650	10,854	399	814	503	80
Social science.....	5,338	4,470	258	385	192	33
Psychology.....	7,312	6,384	141	429	311	47
Engineering.....	2,855	2,143	441	157	101	13
Non-science and -engineering.....	155,351	133,469	4,435	11,124	5,659	664
Grand total.....	177,704	151,951	6,044	12,425	6,496	788

NOTES: Data on race/ethnicity were collected biennially from 1977 through 1989 and annually thereafter. Data on race/ethnicity of degree recipients are collected on broad fields of study only; therefore, these data could not be adjusted to the exact field taxonomies used by NSF. Racial/ethnic categories as designated on the survey form. These categories include U.S. citizens and foreign citizens on permanent visas (i.e., resident aliens who have been admitted for permanent residency).

SOURCES: Tabulations by National Science Foundation/SRS; data from U.S. Department of Education/NCES biennial data from the HEGIS Earned Degrees Surveys, 1985, and IPEDS Completions Surveys, 1987-93.

Appendix table 4-23. Doctorates, by field and sex: 1983–1993

Field and sex	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Total, all fields.....	31,282	31,337	31,298	31,899	32,367	33,499	34,324	36,068	37,517	38,853	39,754
Total science and engineering.....	18,393	18,514	18,712	19,251	19,706	20,739	21,528	22,672	23,780	24,432	25,184
Sciences.....	15,612	15,601	15,547	15,877	15,998	16,561	16,991	17,794	18,572	19,015	19,488
Physical sciences.....	2,802	2,845	2,916	3,090	3,212	3,317	3,244	3,493	3,604	3,751	3,682
Earth, atmos, and ocean sciences..	637	614	617	589	628	728	740	769	836	824	790
Mathematical sciences.....	701	698	688	729	740	749	859	892	1,039	1,058	1,146
Computer sciences.....	286	295	310	399	450	515	612	705	800	869	878
Agricultural sciences.....	1,015	997	1,111	997	976	1,015	1,088	1,176	1,074	1,063	969
Biological sciences.....	3,741	3,880	3,793	3,807	3,839	4,112	4,115	4,327	4,645	4,798	5,090
Psychology.....	3,347	3,257	3,118	3,126	3,173	3,074	3,208	3,282	3,250	3,264	3,419
Social sciences.....	3,083	3,015	2,994	3,140	2,980	3,051	3,125	3,150	3,324	3,388	3,514
Engineering.....	2,781	2,913	3,166	3,376	3,712	4,187	4,543	4,894	5,215	5,439	5,696
Non-science and -engineering.....	12,889	12,823	12,585	12,646	12,657	12,751	12,790	13,380	13,730	14,399	14,570
Men, all fields.....	20,749	20,638	20,554	20,594	20,939	21,681	21,812	22,962	23,647	24,433	24,646
Total science and engineering.....	13,769	13,810	13,900	14,166	14,469	15,157	15,517	16,372	16,957	17,444	17,647
Sciences.....	11,112	11,048	10,933	11,017	11,003	11,265	11,355	11,909	12,216	12,533	12,472
Physical sciences.....	2,431	2,446	2,452	2,585	2,686	2,760	2,627	2,840	2,931	2,985	2,903
Earth, atmos, and ocean sciences..	540	508	506	489	514	583	590	620	651	631	626
Mathematical sciences.....	588	583	582	608	615	628	704	734	840	853	882
Computer sciences.....	250	258	277	351	385	459	504	595	683	749	741
Agricultural sciences.....	882	864	940	825	805	829	860	929	865	830	741
Biological sciences.....	2,508	2,665	2,555	2,527	2,479	2,607	2,573	2,713	2,873	2,967	3,040
Psychology.....	1,750	1,626	1,577	1,527	1,475	1,393	1,408	1,368	1,254	1,335	1,330
Social sciences.....	2,163	2,098	2,044	2,105	2,044	2,006	2,089	2,110	2,119	2,183	2,209
Engineering.....	2,657	2,762	2,968	3,151	3,470	3,901	4,168	4,479	4,748	4,933	5,175
Non-science and -engineering.....	6,980	6,828	6,653	6,426	6,466	6,515	6,288	6,574	6,679	6,967	6,999
Women, all fields.....	10,533	10,699	10,744	11,305	11,428	11,818	12,512	13,106	13,870	14,420	15,108
Total science and engineering.....	4,624	4,704	4,812	5,085	5,237	5,582	6,011	6,300	6,823	6,988	7,537
Sciences.....	4,500	4,553	4,614	4,860	4,995	5,296	5,636	5,885	6,356	6,482	7,016
Physical sciences.....	371	399	464	505	526	557	617	653	673	766	779
Earth, atmos, and ocean sciences..	97	106	111	100	114	145	150	149	185	193	164
Mathematical sciences.....	113	115	106	121	125	121	155	158	199	205	264
Computer sciences.....	36	37	33	48	65	56	108	110	117	120	137
Agricultural sciences.....	133	133	171	172	171	186	228	247	209	233	228
Biological sciences.....	1,233	1,215	1,238	1,280	1,360	1,505	1,542	1,614	1,772	1,831	2,050
Psychology.....	1,597	1,631	1,541	1,599	1,698	1,681	1,800	1,914	1,996	1,929	2,089
Social sciences.....	920	917	950	1,035	936	1,045	1,036	1,040	1,205	1,205	1,305
Engineering.....	124	151	198	225	242	286	375	415	467	506	521
Non-science and -engineering.....	5,909	5,995	5,932	6,220	6,191	6,236	6,501	6,806	7,047	7,432	7,571

NOTE: Data differ slightly from other doctoral degree totals because field classifications could not be adjusted to the exact field taxonomies used in other tab

SOURCE: National Science Foundation/SRS. Survey of Earned Doctorates.

Appendix table 4-24. Doctorates, by field and sex: 1983 and 1993

Field	1983				1993			
	Total	Men	Women	Percent women	Total	Men	Women	Percent women
Total, all fields.....	31,282	20,749	10,533	33.7	39,754	24,646	15,108	38.0
Total science and engineering.....	18,393	13,769	4,624	25.1	25,184	17,647	7,537	29.9
Sciences.....	15,612	11,112	4,500	28.8	19,488	12,472	7,016	36.0
Physical sciences.....	2,802	2,431	371	13.2	3,682	2,903	779	21.2
Earth, atmos, and ocean sciences.....	637	540	97	15.2	790	626	164	20.8
Mathematical sciences.....	701	588	113	16.1	1,146	882	264	23.0
Computer sciences.....	286	250	36	12.6	878	741	137	15.6
Agricultural sciences.....	1,015	882	133	13.1	969	741	228	23.5
Biological sciences.....	3,741	2,508	1,233	33.0	5,090	3,040	2,050	40.3
Psychology.....	3,347	1,750	1,597	47.7	3,419	1,330	2,089	61.1
Social sciences.....	3,083	2,163	920	29.8	3,514	2,209	1,305	37.1
Engineering.....	2,781	2,657	124	4.5	5,696	5,175	521	9.1
Aerospace engineering.....	106	104	2	1.9	228	220	8	3.5
Chemical engineering.....	349	327	22	6.3	624	541	83	13.3
Civil engineering.....	354	342	12	3.4	563	518	45	8.0
Electrical engineering.....	436	430	6	1.4	1,353	1,246	107	7.9
Industrial engineering.....	86	80	6	7.0	236	209	27	11.4
Materials science engineering.....	157	135	22	14.0	416	349	67	16.1
Mechanical engineering.....	311	305	6	1.9	901	855	46	5.1
Other engineering.....	982	934	48	4.9	1,375	1,237	138	10.0
Non-science and -engineering.....	12,889	6,980	5,909	45.8	14,570	6,999	7,571	52.0

NOTE: Data differ slightly from other doctoral degree totals because field classifications could not be adjusted to the exact field taxonomies used in other tables.

SOURCE: National Science Foundation/SRS. Survey of Earned Doctorates.

Appendix table 4-25. Women as a percentage of all doctorate recipients in science and engineering in top 50 institutions granting doctorates to women, by institution and field: 1993

Academic institution	Science and engineering			Science			Engineering		
	Total	Women	Percent women	Total	Women	Percent women	Total	Women	Percent women
1 University of California-Berkeley.....	607	148	24.4	436	128	29.4	171	20	11.7
2 University of California-Los Angeles.....	447	139	31.1	358	135	37.7	89	4	4.5
3 Cornell University, all campuses.....	386	119	30.8	310	114	36.8	76	5	6.6
4 University of Michigan at Ann Arbor.....	465	116	24.9	272	100	36.8	193	16	8.3
5 University of Pennsylvania.....	301	116	38.5	252	109	43.3	49	7	14.3
6 University of Wisconsin-Madison.....	469	115	24.5	356	108	30.3	113	7	6.2
7 Ohio State University, main campus.....	393	113	28.8	293	110	37.5	100	3	3.0
8 University of Minnesota - Twin Cities.....	394	112	28.4	307	101	32.9	87	11	12.6
9 University of Illinois at Urbana-Champaign.....	474	108	22.8	314	96	30.6	160	12	7.5
10 Purdue University, main campus.....	410	106	25.9	251	90	35.9	159	16	10.1
11 Stanford University.....	457	105	23.0	260	77	29.6	197	28	14.2
12 Columbia University in the City of New York.....	290	103	35.5	238	97	40.8	52	6	11.5
13 University of Maryland at College Park.....	322	100	31.1	232	93	40.1	90	7	7.8
14 University of Texas at Austin.....	396	97	24.5	259	84	32.4	137	13	9.5
15 Harvard University.....	313	94	30.0	307	94	30.6	6	0	0.0
16 CUNY Graduate School and University Center.....	240	92	38.3	220	92	41.8	20	0	0.0
17 Rutgers the State Univ of NJ New Brunswick.....	241	90	37.3	197	84	42.6	44	6	13.6
18 University of North Carolina at Chapel Hill.....	237	89	37.6	230	89	38.7	7	0	0.0
19 Pennsylvania State U, main campus.....	362	88	24.3	223	78	35.0	139	10	7.2
20 Massachusetts Institute of Technology.....	489	85	17.4	277	59	21.3	212	26	12.3
21 Northwestern University.....	270	82	30.4	179	67	37.4	91	15	16.5
22 University of Arizona.....	255	82	32.2	206	78	37.9	49	4	8.2
23 Michigan State University.....	273	80	29.3	228	77	33.8	45	3	6.7
24 SUNY at Stony Brook, all campuses.....	222	80	36.0	204	78	38.2	18	2	11.1
25 University of California-Davis.....	280	80	28.6	234	77	32.9	46	3	6.5
26 Texas A&M University, main campus.....	355	78	22.0	248	71	28.6	107	7	6.5
27 Johns Hopkins University.....	220	76	34.5	177	67	37.9	43	9	20.9
28 New York University.....	169	76	45.0	166	76	45.8	3	0	0.0
29 Yale University.....	237	76	32.1	225	76	33.8	12	0	0.0
30 SUNY at Buffalo.....	225	74	32.9	173	69	39.9	52	5	9.6
31 University of Washington.....	296	74	25.0	227	67	29.5	69	7	10.1
32 University of Southern California.....	248	70	28.2	160	62	38.8	88	8	9.1
33 University of Massachusetts at Amherst.....	200	67	33.5	150	62	41.3	50	5	10.0
34 University of Colorado at Boulder.....	263	63	24.0	178	58	32.6	85	5	5.9
35 Virginia Polytechnic Institute and State Univ.....	271	63	23.2	164	53	32.3	107	10	9.3
36 California School Prof Psych at Los Angeles.....	84	61	72.6	84	61	72.6	0	0	0.0
37 University of Chicago.....	216	61	28.2	216	61	28.2	0	0	0.0
38 University of California-San Diego.....	232	60	25.9	187	56	29.9	45	4	8.9
39 Indiana University at Bloomington.....	166	58	34.9	166	58	34.9	0	0	0.0
40 University of Pittsburgh, main campus.....	168	57	33.9	138	56	40.6	30	1	3.3
41 Princeton University.....	188	56	29.8	141	49	34.8	47	7	14.9
42 University of Connecticut.....	141	56	39.7	121	52	43.0	20	4	20.0
43 Iowa State University.....	251	55	21.9	194	51	26.3	57	4	7.0
44 University of Florida.....	284	55	19.4	204	51	25.0	80	4	5.0
45 University of Illinois at Chicago.....	170	55	32.4	136	53	39.0	34	2	5.9
46 Wayne State University.....	137	55	40.1	116	54	46.6	21	1	4.8
47 University of Virginia, main campus.....	177	54	30.5	139	50	36.0	38	4	10.5
48 Boston University.....	155	53	34.2	143	53	37.1	12	0	0.0
49 United States International University.....	76	53	69.7	76	53	69.7	0	0	0.0
50 University of Georgia.....	164	50	30.5	164	50	30.5	0	0	0.0

SOURCE: National Science Foundation/SRS. Survey of Earned Doctorates.

Appendix table 4-26. Doctorates awarded to U.S. citizens and permanent residents, by field and race/ethnicity: 1983–1993

Field and year	Total, U.S. citizens & permanent residents	White, non-Hispanic	Black, non-Hispanic	American Indian	Asian	Hispanic	Other and unknown
Total, all fields:							
1983.....	25,634	22,250	1,005	82	1,043	608	646
1984.....	25,251	21,864	1,055	74	1,019	605	634
1985.....	24,694	21,297	1,043	96	1,069	634	555
1986.....	24,516	21,225	949	99	1,058	679	506
1987.....	24,561	21,116	907	115	1,167	708	548
1988.....	24,912	21,457	966	94	1,235	693	467
1989.....	25,026	21,568	962	94	1,261	693	448
1990.....	26,604	22,876	1,047	96	1,305	837	443
1991.....	27,415	23,173	1,158	132	1,527	867	558
1992.....	27,953	23,590	1,104	149	1,751	908	451
1993.....	28,636	23,993	1,275	119	2,009	972	268
Science and engineering:							
1983.....	14,517	12,670	338	30	780	284	415
1984.....	14,293	12,417	376	32	776	298	394
1985.....	14,065	12,166	374	41	809	296	379
1986.....	14,016	12,148	334	52	813	345	324
1987.....	14,055	12,051	319	53	924	357	351
1988.....	14,499	12,454	358	44	916	397	330
1989.....	14,591	12,500	366	53	981	382	309
1990.....	15,364	13,168	372	42	1,008	468	306
1991.....	15,907	13,319	457	56	1,178	492	405
1992.....	15,942	13,323	403	69	1,336	513	298
1993.....	16,549	13,718	467	43	1,606	543	172
All other fields:							
1983.....	11,117	9,580	667	52	263	324	231
1984.....	10,958	9,447	679	42	243	307	240
1985.....	10,629	9,131	669	55	260	338	176
1986.....	10,500	9,077	615	47	245	334	182
1987.....	10,506	9,065	588	62	243	351	197
1988.....	10,413	9,003	608	50	319	296	137
1989.....	10,435	9,068	596	41	280	311	139
1990.....	11,240	9,708	675	54	297	369	137
1991.....	11,508	9,854	701	76	349	375	153
1992.....	12,011	10,267	701	80	415	395	153
1993.....	12,087	10,275	808	76	403	429	96

See explanatory information and SOURCE at end of table.

Appendix table 4-26. Doctorates awarded to U.S. citizens and permanent residents, by field and race/ethnicity: 1983–1993

Field and year	U.S. citizens	White, non-Hispanic	Black, non-Hispanic	American Indian	Asian	Hispanic	Other and unknown
Total, all fields:							
1983.....	24,359	21,705	922	81	492	539	620
1984.....	24,027	21,350	953	74	512	534	604
1985.....	23,370	20,763	912	96	516	561	522
1986.....	23,083	20,629	823	99	530	572	430
1987.....	22,983	20,462	768	115	542	617	479
1988.....	23,290	20,783	814	94	614	595	390
1989.....	23,400	20,892	821	94	626	581	386
1990.....	24,906	22,169	898	96	641	721	381
1991.....	25,559	22,413	1,003	130	786	731	496
1992.....	25,975	22,876	961	149	837	778	374
1993.....	26,386	23,202	1,106	119	891	834	234
Science and engineering:							
1983.....	13,614	12,306	297	29	346	239	397
1984.....	13,454	12,091	316	32	385	257	373
1985.....	13,134	11,821	294	41	374	250	354
1986.....	13,022	11,746	270	52	400	279	275
1987.....	12,966	11,611	245	53	446	308	303
1988.....	13,369	12,002	272	44	454	331	266
1989.....	13,467	12,048	297	53	489	313	267
1990.....	14,167	12,692	290	42	488	390	265
1991.....	14,623	12,835	362	56	597	410	363
1992.....	14,560	12,848	319	69	643	433	248
1993.....	14,913	13,191	374	43	713	446	146
All other fields:							
1983.....	10,745	9,399	625	52	146	300	223
1984.....	10,573	9,259	637	42	127	277	231
1985.....	10,236	8,942	618	55	142	311	168
1986.....	10,061	8,883	553	47	130	293	155
1987.....	10,017	8,851	523	62	96	309	176
1988.....	9,921	8,781	542	50	160	264	124
1989.....	9,933	8,844	524	41	137	268	119
1990.....	10,739	9,477	608	54	153	331	116
1991.....	10,936	9,578	641	74	189	321	133
1992.....	11,415	10,028	642	80	194	345	126
1993.....	11,473	10,011	732	76	178	388	88

See explanatory information and SOURCE at end of table.

Appendix table 4-26. Doctorates awarded to U.S. citizens and permanent residents, by field and race/ethnicity: 1983–1993

Field and year	Permanent residents	White, non-Hispanic	Black, non-Hispanic	American Indian	Asian	Hispanic	Other and unknown
Total, all fields:							
1983.....	1,275	545	83	1	551	69	26
1984.....	1,224	514	102	0	507	71	30
1985.....	1,324	534	131	0	553	73	33
1986.....	1,433	596	126	0	528	107	76
1987.....	1,578	654	139	0	625	91	69
1988.....	1,622	674	152	0	621	98	77
1989.....	1,626	676	141	0	635	112	62
1990.....	1,698	707	149	0	664	116	62
1991.....	1,856	760	155	2	741	136	62
1992.....	1,978	714	143	0	914	130	77
1993.....	2,250	791	169	0	1118	138	34
Science and engineering:							
1983.....	903	364	41	1	434	45	18
1984.....	839	326	60	0	391	41	21
1985.....	931	345	80	0	435	46	25
1986.....	994	402	64	0	413	66	49
1987.....	1,089	440	74	0	478	49	48
1988.....	1,130	452	86	0	462	66	64
1989.....	1,124	452	69	0	492	69	42
1990.....	1,197	476	82	0	520	78	41
1991.....	1,284	484	95	0	581	82	42
1992.....	1,382	475	84	0	693	80	50
1993.....	1,636	527	93	0	893	97	26
All other fields:							
1983.....	372	181	42	0	117	24	8
1984.....	385	188	42	0	116	30	9
1985.....	393	189	51	0	118	27	8
1986.....	439	194	62	0	115	41	27
1987.....	489	214	65	0	147	42	21
1988.....	492	222	66	0	159	32	13
1989.....	502	224	72	0	143	43	20
1990.....	501	231	67	0	144	38	21
1991.....	572	276	60	2	160	54	20
1992.....	596	239	59	0	221	50	27
1993.....	614	264	76	0	225	41	8

NOTE: Data differ slightly from other doctoral degree totals because these were derived from the CASPAR data analysis system which treats missing data for citizenship differently.

SOURCE: National Science Foundation/SRS. Survey of Earned Doctorates.

Appendix table 4-27. Number of doctoral degrees, by field, race/ethnicity of recipient, and citizenship status: 1985–1993, selected years

Field, race/ethnicity, and citizenship status	1985	1987	1989	1990	1991	1992	1993
Total, all recipients:							
Total science and engineering.....	18,936	19,894	21,731	22,868	24,018	24,676	25,438
Sciences.....	15,770	16,182	17,188	17,974	18,803	19,237	19,742
Natural sciences.....	9,435	9,845	10,656	11,360	11,997	12,363	12,554
Physical science ¹	3,533	3,840	3,984	4,262	4,440	4,575	4,472
Mathematical science.....	688	740	859	892	1,039	1,058	1,146
Computer science.....	310	450	612	705	800	869	878
Biological science.....	3,793	3,839	4,115	4,327	4,645	4,798	5,090
Agricultural science.....	1,111	976	1,086	1,174	1,073	1,063	968
Social sciences.....	6,335	6,337	6,532	6,614	6,806	6,874	7,188
Social science.....	3,217	3,164	3,324	3,332	3,556	3,610	3,769
Psychology.....	3,118	3,173	3,208	3,282	3,250	3,264	3,419
Engineering.....	3,166	3,712	4,543	4,894	5,215	5,439	5,696
Non-science and -engineering.....	12,362	12,473	12,593	13,200	13,499	14,177	14,316
Grand total.....	31,298	32,367	34,324	36,068	37,517	38,853	39,754
White, non-Hispanic:							
Total science and engineering.....	12,172	12,064	12,517	13,218	13,352	13,353	13,767
Sciences.....	10,984	10,604	10,787	11,371	11,509	11,468	11,737
Natural sciences.....	6,433	6,218	6,492	6,817	6,893	6,830	6,846
Physical science ¹	2,331	2,353	2,327	2,509	2,526	2,463	2,372
Mathematical science.....	350	319	369	375	422	425	479
Computer science.....	177	230	320	343	355	379	411
Biological science.....	2,915	2,761	2,906	2,980	3,044	3,070	3,146
Agricultural science.....	660	555	570	610	546	493	438
Social sciences.....	4,551	4,386	4,295	4,554	4,616	4,638	4,891
Social science.....	1,961	1,868	1,836	1,902	1,950	1,993	2,068
Psychology.....	2,590	2,518	2,459	2,652	2,666	2,645	2,823
Engineering.....	1,188	1,460	1,730	1,847	1,843	1,885	2,030
Non-science and -engineering.....	9,141	9,074	9,086	9,737	9,871	10,292	10,326
Grand total.....	21,313	21,138	21,603	22,955	23,223	23,645	24,093
Asian:							
Total science and engineering.....	849	940	994	1,052	1,218	1,352	1,646
Sciences.....	543	609	632	677	802	897	1,104
Natural sciences.....	403	445	484	506	614	705	855
Physical science ¹	174	166	182	184	200	258	293
Mathematical science.....	34	41	24	28	57	51	79
Computer science.....	17	27	53	52	66	86	81
Biological science.....	152	173	200	207	262	272	372
Agricultural science.....	26	38	25	35	29	38	30
Social sciences.....	140	164	148	171	188	192	249
Social science.....	96	116	93	118	126	136	175
Psychology.....	44	48	55	53	62	56	74
Engineering.....	306	331	362	375	416	455	542
Non-science and -engineering.....	267	253	284	309	357	420	412
Grand total.....	1,116	1,193	1,278	1,361	1,575	1,772	2,058

See explanatory information and SOURCES at end of table.

Appendix table 4-27. Number of doctoral degrees, by field, race/ethnicity of recipient, and citizenship status: 1985–1993, selected years

Field, race/ethnicity, and citizenship status	1985	1987	1989	1990	1991	1992	1993
Black, non-Hispanic:							
Total science and engineering.....	375	320	376	379	459	406	472
Sciences.....	341	295	341	339	404	357	421
Natural sciences.....	110	109	115	106	131	117	150
Physical science ¹	31	22	35	33	34	32	45
Mathematical science.....	7	11	8	4	11	4	8
Computer science.....	3	2	1	1	8	5	6
Biological science.....	53	60	57	51	60	61	74
Agricultural science.....	16	14	14	17	18	15	17
Social sciences.....	231	186	226	233	273	240	271
Social science.....	126	93	129	117	144	137	152
Psychology.....	105	93	97	116	129	103	119
Engineering.....	34	25	35	40	55	49	51
Non-science and -engineering.....	670	593	597	680	706	705	815
Grand total.....	1,045	913	973	1,059	1,165	1,111	1,287
Hispanic:							
Total science and engineering.....	297	363	385	471	496	522	546
Sciences.....	275	328	338	417	435	451	481
Natural sciences.....	125	157	174	214	215	232	251
Physical science ¹	36	62	69	86	81	89	94
Mathematical science.....	12	11	11	11	9	12	16
Computer science.....	6	4	4	5	12	8	7
Biological science.....	59	64	71	89	97	102	114
Agricultural science.....	12	16	19	23	16	21	20
Social sciences.....	150	171	164	203	220	219	230
Social science.....	81	76	71	94	98	83	97
Psychology.....	69	95	93	109	122	136	133
Engineering.....	22	35	47	54	61	71	65
Non-science and -engineering.....	343	353	314	371	377	397	430
Grand total.....	640	716	699	842	873	919	976
American Indian:							
Total science and engineering.....	41	53	53	42	56	69	43
Sciences.....	40	46	46	38	50	58	41
Natural sciences.....	21	23	27	13	28	30	19
Physical science ¹	4	7	16	4	13	13	9
Mathematical science.....	0	0	0	1	0	2	1
Computer science.....	0	3	2	0	1	2	1
Biological science.....	13	11	7	4	10	13	7
Agricultural science.....	4	2	2	4	4	0	1
Social sciences.....	19	23	19	25	22	28	22
Social science.....	9	7	8	7	9	13	7
Psychology.....	10	16	11	18	13	15	15
Engineering.....	1	7	7	4	6	11	2
Non-science and -engineering.....	55	62	41	54	76	81	76
Grand total.....	96	115	94	96	132	150	119

See explanatory information and SOURCES at end of table.

Appendix table 4-27. Number of doctoral degrees, by field, race/ethnicity of recipient, and citizenship status: 1985–1993, selected years

Field, race/ethnicity, and citizenship status	1985	1987	1989	1990	1991	1992	1993
U.S. citizens and permanent residents, total:							
Total science and engineering.....	13,734	13,740	14,325	15,162	15,581	15,702	16,474
Sciences.....	12,183	11,882	12,144	12,842	13,200	13,231	13,784
Natural sciences.....	7,092	6,952	7,292	7,656	7,881	7,914	8,121
Physical science ¹	2,576	2,610	2,629	2,816	2,854	2,855	2,813
Mathematical science.....	403	382	412	419	499	494	583
Computer science.....	203	266	380	401	442	480	506
Biological science.....	3,192	3,069	3,241	3,331	3,473	3,518	3,713
Agricultural science.....	718	625	630	689	613	567	506
Social sciences.....	5,091	4,930	4,852	5,186	5,319	5,317	5,663
Social science.....	2,273	2,160	2,137	2,238	2,327	2,362	2,499
Psychology.....	2,818	2,770	2,715	2,948	2,992	2,955	3,164
Engineering.....	1,551	1,858	2,181	2,320	2,381	2,471	2,690
Non-science and -engineering.....	10,476	10,335	10,322	11,151	11,387	11,895	12,059
Grand total.....	24,210	24,075	24,647	26,313	26,968	27,597	28,533
Nonresident alien ² :							
Total science and engineering.....	4,048	4,468	5,391	6,571	7,642	8,092	8,111
Sciences.....	2,629	2,936	3,451	4,294	5,008	5,349	5,328
Natural sciences.....	1,845	2,149	2,499	3,232	3,782	4,089	4,056
Physical science ¹	739	923	1,012	1,244	1,442	1,582	1,497
Mathematical science.....	238	302	346	424	506	511	517
Computer science.....	89	143	178	271	340	365	349
Biological science.....	424	492	608	853	1,059	1,159	1,246
Agricultural science.....	355	289	355	440	435	472	447
Social sciences.....	784	787	952	1,062	1,226	1,260	1,272
Social science.....	703	702	846	945	1,093	1,104	1,124
Psychology.....	81	85	106	117	133	156	148
Engineering.....	1,419	1,532	1,940	2,277	2,634	2,743	2,783
Non-science and -engineering.....	1,180	1,142	1,255	1,522	1,667	1,858	1,812
Grand total.....	5,228	5,610	6,646	8,093	9,309	9,950	9,923
Unknown race/ethnicity or citizenship:							
Total science and engineering.....	1,154	1,686	2,015	1,135	795	882	853
Sciences.....	958	1,364	1,593	838	595	657	630
Natural sciences.....	498	744	865	472	334	360	377
Physical science ¹	218	307	343	202	144	138	162
Mathematical science.....	47	56	101	49	34	53	46
Computer science.....	18	41	54	33	18	24	23
Biological science.....	177	278	266	143	113	121	131
Agricultural science.....	38	62	101	45	25	24	15
Social sciences.....	460	620	728	366	261	297	253
Social science.....	241	302	341	149	136	144	146
Psychology.....	219	318	387	217	125	153	107
Engineering.....	196	322	422	297	200	225	223
Non-science and -engineering.....	706	996	1,016	527	445	424	445
Grand total.....	1,860	2,682	3,031	1,662	1,240	1,306	1,298

¹ In this report, "physical science" includes earth, atmospheric, and ocean science, as well as physics, astronomy, and chemistry.

² Nonresident aliens include foreign citizens on temporary visas only.

SOURCE: National Science Foundation/SRS, Survey of Earned Doctorates.

Appendix table 4-28. Top 50 institutions awarding doctorates in science and engineering to minorities with U.S. citizenship, by race/ethnicity: 1993

Academic institution	Total U.S. citizens	White	Minority race/ethnicity					Other or unknown
			Total	Black	American Indian	Asian	Hispanic	
Total, all institutions.....	14,913	13,191	1,576	374	43	713	446	146
1 University of California-Berkeley.....	408	346	61	7	0	42	12	1
2 University of California-Los Angeles.....	271	207	61	5	0	40	16	3
3 Stanford University.....	290	233	56	7	1	45	3	1
4 Massachusetts Institute of Technology.....	217	183	28	3	1	19	5	6
5 University of Michigan at Ann Arbor.....	275	248	27	8	0	11	8	0
6 CUNY Graduate School and University Center.....	125	97	25	8	0	10	7	3
7 Harvard University.....	188	158	25	6	0	14	5	5
8 University of Pennsylvania.....	201	175	23	7	0	8	8	3
9 California School Prof Psych at Los Angeles.....	78	56	22	10	0	6	6	0
10 Ohio State University, Main Campus.....	189	167	22	2	1	10	9	0
11 University of California-Irvine.....	96	68	22	2	0	15	5	6
12 University of Colorado at Boulder.....	175	152	22	7	0	7	8	1
13 University of Maryland at College Park.....	170	147	22	9	1	8	4	1
14 University of Southern California.....	121	95	22	1	0	14	7	4
15 Georgia Institute of Technology, Main Campus.....	110	89	20	4	0	10	6	1
16 Princeton University.....	115	94	20	3	0	15	2	1
17 Purdue University, Main Campus.....	185	165	20	1	2	12	5	0
18 University of California-Davis.....	160	138	20	0	0	17	3	2
19 University of California-San Diego.....	144	123	20	3	0	13	4	1
20 University of Illinois at Urbana-Champaign.....	247	227	20	2	0	13	5	0
21 University of Wisconsin-Madison.....	274	252	20	0	1	13	6	2
22 Cornell University, all campuses.....	212	192	19	2	0	10	7	1
23 Texas A&M University Main Campus.....	186	167	19	2	0	8	9	0
24 University of Texas at Austin.....	217	198	19	2	1	7	9	0
25 University of Washington.....	194	171	18	3	0	13	2	5
26 Northwestern University.....	159	138	17	1	0	13	3	4
27 University of Florida.....	156	139	17	8	1	3	5	0
28 Yale University.....	156	137	17	2	0	12	3	2
29 Michigan State University.....	147	130	16	4	0	7	5	1
30 Pennsylvania State U, Main Campus.....	191	175	16	3	0	6	7	0
31 University of Minnesota - Twin Cities.....	233	209	16	2	2	10	2	8
32 Columbia University in the City of New York.....	166	149	14	2	0	7	5	3
33 New York University.....	115	98	14	2	1	5	6	3
34 Rutgers the State Univ of NJ New Brunswick.....	122	106	14	3	0	5	6	2
35 University of North Carolina at Chapel Hill.....	190	176	14	8	3	1	2	0
36 North Carolina State University at Raleigh.....	134	121	13	3	0	5	5	0
37 University of California-Santa Barbara.....	101	87	13	1	0	5	7	1
38 University of Illinois at Chicago.....	89	76	13	3	0	6	4	0
39 University of PR Rio Piedras Campus.....	13	0	13	0	0	0	13	0
40 University of California-Riverside.....	63	51	12	0	1	8	3	0
41 University of Chicago.....	145	133	12	3	0	7	2	0
42 University of Miami.....	44	31	12	0	0	2	10	1
43 Vanderbilt University.....	78	65	11	4	0	6	1	2
44 Boston University.....	81	70	10	5	0	2	3	1
45 Johns Hopkins University.....	136	112	10	0	0	7	3	14
46 SUNY at Buffalo.....	114	104	10	5	1	3	1	0
47 University of California-San Francisco.....	50	40	10	0	0	7	3	0
48 University of Hawaii at Manoa.....	52	38	10	0	0	10	0	4
49 University of Massachusetts at Amherst.....	124	113	10	5	0	2	3	1
50 Duke University ¹	113	104	9	2	0	4	3	0

¹ Indiana University at Bloomington, Temple University, University of Georgia, and Washington State University ranked the same total number of minorities.

NOTES: Institutions are ranked by total doctorates awarded to minorities. Data differ slightly from other doctoral degree totals because these derived from the CASPAR data analysis system which treats missing data for citizenship differently.

SOURCE: National Science Foundation/SRS. Survey of Earned Doctorates.

Appendix 4-29. Recipients of science and engineering doctorates, by major field and disability status: 1993

Field	All doctorate recipients		Doctorate recipients with disabilities	
	Total	Percent	Total	Percent
Total science and engineering.....	25,184	100.0	329	100.0
Sciences.....	19,488	77.4	284	86.3
Physics/astronomy.....	1,543	6.1	16	4.9
Chemistry.....	2,139	8.5	31	9.4
Earth, atmos, and ocean sciences.....	790	3.1	4	1.2
Mathematics.....	1,146	4.6	10	3.0
Computer/information sciences.....	878	3.5	9	2.7
Agricultural sciences.....	969	3.8	11	3.3
Biological sciences.....	5,090	20.2	67	20.4
Psychology.....	3,419	13.6	71	21.6
Social sciences.....	3,514	14.0	65	19.8
Engineering.....	5,696	22.6	45	13.7

NOTES: Data differ slightly from other doctoral degree totals because field classifications could not be adjusted to the exact field taxonomies used in other tables. All citizenship groups are included.

SOURCE: National Science Foundation/SRS. Survey of Earned Doctorates.

Appendix 4-30. Recipients of science and engineering doctorates reporting a disability, by type of disability: 1993

Type of disability	Total science and engineering	Science		Engineering	
		Total	Percent	Total	Percent
Total with disability.....	329	284	100.0	45	100.0
Visual.....	84	68	23.9	16	35.6
Mobility.....	57	52	18.3	5	11.1
Auditory.....	51	43	15.1	8	17.8
Vocal.....	7	7	2.5	0	0.0
Other.....	93	84	29.6	9	20.0
Unknown.....	37	30	10.6	7	15.6

NOTES: Data differ slightly from other doctoral degree totals because field classifications could not be adjusted to the exact field taxonomies used in other tables. All citizenship groups are included.

SOURCE: National Science Foundation/SRS. Survey of Earned Doctorates.

Women, Minorities, and Persons With Disabilities in Science and Engineering: 1996

Appendix 4-31. Recipients of science and engineering doctorates, by disability status and race/ethnicity: 1993

Disability status	Total	White	Asian	Black	Hispanic	American Indian	Other/Unknown
Total scientists and engineers with a disability.....	253	229	8	7	7	0	2
Scientists with a disability.....	226	208	7	5	5	0	1
Percent.....	89.3	90.8	87.5	71.4	71.4		50.0
Engineers with a disability.....	27	21	1	2	2	0	1
Percent.....	10.7	9.2	12.5	28.6	28.6		50.0
Total scientists and engineers without a disability.....	13,925	12,367	683	339	419	39	78
Scientists without a disability.....	11,786	10,546	472	303	365	37	63
Percent.....	84.6	85.3	69.1	89.4	87.1	94.9	80.8
Engineers without a disability.....	2,139	1,821	211	36	54	2	15
Percent.....	15.4	14.7	30.9	10.6	12.9	5.1	19.2

NOTES: Data are for U.S. citizens only. Data differ slightly from other doctoral degree totals because field classifications could not be adjusted to the exact field taxonomies used in other tables.

SOURCE: National Science Foundation/SRS. Survey of Earned Doctorates.

Appendix 4-32. Years between bachelor's and doctoral degrees for scientists and engineers, by disability status and sex: 1993

Years	Total Ph.D.s			Persons with disabilities		
	Total	Women	Men	Total	Women	Men
Total time, bachelor's to Ph.D. (number):						
1 to 5 years.....	2,542	745	1,797	38	12	26
6 to 10 years.....	12,893	3,668	9,225	133	37	96
11 to 15 years.....	5,367	1,573	3,794	63	18	45
16 to 20 years.....	1,967	676	1,291	46	14	32
21 or more years.....	1,277	599	678	45	25	20
Total known responses.....	24,046	7,261	16,785	325	106	219
Unknown responses.....	1,138	276	862	4	1	3
Total Ph.D.s.....	25,184	7,537	17,647	329	107	222
Total time, bachelor's to Ph.D. (percent):						
1 to 5 years.....	10.1	9.9	10.2	11.6	11.2	11.7
6 to 10 years.....	51.2	48.7	52.3	40.4	34.6	43.2
11 to 15 years.....	21.3	20.9	21.5	19.1	16.8	20.3
16 to 20 years.....	7.8	9.0	7.3	14.0	13.1	14.4
21 or more years.....	5.1	7.9	3.8	13.7	23.4	9.0
Unknown responses.....	4.5	3.7	4.9	1.2	0.9	1.4

NOTE: Data differ slightly from other doctoral degree totals because field classifications could not be adjusted to the exact field taxonomies used in other tables.

SOURCE: National Science Foundation/SRS. Survey of Earned Doctorates.

Appendix table 4-33. Science and engineering postdoctoral appointees in doctorate-granting institutions, by sex and field: 1988–1993

Sex and field	1988	1989	1990	1991	1992	1993
Both sexes:						
Total science and engineering.....	19,670	20,846	21,754	22,811	23,813	24,560
Sciences.....	17,985	18,934	19,814	20,558	21,468	22,123
Physical sciences.....	5,185	5,355	5,565	5,693	5,757	5,648
Astronomy.....	147	186	184	210	206	219
Chemistry.....	3,421	3,457	3,630	3,647	3,564	3,567
Physics.....	1,584	1,683	1,723	1,813	1,948	1,823
Physical sciences, n.e.c.....	33	29	28	23	39	39
Earth, atmospheric, and ocean sciences.....	493	450	590	622	686	757
Atmospheric sciences.....	71	58	57	59	64	81
Geosciences.....	273	265	342	368	395	418
Oceanography.....	116	107	170	161	186	205
Earth, atmospheric, and ocean sciences, n.e.c.....	33	20	21	34	41	53
Mathematical sciences.....	284	224	248	206	201	220
Computer sciences.....	91	78	71	120	144	168
Agricultural sciences.....	464	519	529	570	635	717
Biological sciences.....	10,651	11,406	11,911	12,467	13,166	13,703
Psychology.....	498	536	464	504	520	530
Social sciences.....	319	366	436	376	359	380
Economics.....	29	61	94	79	71	84
Political science.....	49	41	66	78	49	35
Sociology.....	74	75	96	91	75	77
Anthropology.....	56	74	64	51	59	52
Linguistics.....	36	30	38	14	26	29
History of science.....	16	12	18	19	17	26
Social sciences, n.e.c.....	59	73	60	44	62	77
Engineering.....	1,685	1,912	1,940	2,253	2,345	2,437
Aerospace engineering.....	48	38	67	77	92	116
Chemical engineering.....	423	466	551	578	533	525
Civil engineering.....	203	182	168	185	187	188
Electrical engineering.....	186	193	241	339	313	382
Mechanical engineering.....	216	302	219	323	349	355
Materials engineering.....	325	323	365	394	450	405
Industrial engineering.....	32	32	6	27	38	63
Engineering, n.e.c.....	252	376	323	330	383	403

See explanatory information and SOURCES at end of table.

Appendix table 4-33. Science and engineering postdoctoral appointees in doctorate-granting institutions, by sex and field: 1988–1993

Sex and field	1988	1989	1990	1991	1992	1993
Women:						
Total science and engineering.....	4,907	5,309	5,632	5,951	6,428	6,759
Sciences.....	4,736	5,134	5,427	5,715	6,179	6,475
Physical sciences.....	713	749	794	836	836	843
Astronomy.....	19	26	25	34	25	35
Chemistry.....	563	582	603	640	644	633
Physics.....	126	137	162	158	162	169
Physical sciences, n.e.c.....	5	4	4	4	5	6
Earth, atmospheric, and ocean sciences.....	85	70	94	111	153	162
Atmospheric sciences.....	5	2	6	10	13	13
Geosciences.....	48	43	61	57	79	75
Oceanography.....	24	21	25	34	51	62
Earth, atmospheric, and ocean sciences, n.e.c.....	8	4	2	10	10	12
Mathematical sciences.....	37	28	30	29	26	33
Computer sciences.....	11	14	9	20	32	29
Agricultural sciences.....	110	134	138	132	159	177
Biological sciences.....	3,448	3,800	3,987	4,204	4,599	4,861
Psychology.....	216	209	221	237	249	232
Social sciences.....	116	130	154	146	125	138
Economics.....	3	10	14	13	15	14
Political science.....	15	14	21	33	18	10
Sociology.....	34	34	39	42	30	38
Anthropology.....	19	29	27	24	23	29
Linguistics.....	15	12	15	5	10	14
History of science.....	5	2	9	9	6	8
Social sciences, n.e.c.....	25	29	29	20	23	25
Engineering.....	171	175	205	236	249	284
Aerospace engineering.....	3	3	4	4	4	11
Chemical engineering.....	53	46	81	92	68	78
Civil engineering.....	19	29	14	22	21	17
Electrical engineering.....	16	13	14	18	32	33
Mechanical engineering.....	18	14	16	22	20	18
Materials engineering.....	36	36	43	41	53	52
Industrial engineering.....	4	6	1	2	3	13
Engineering, n.e.c.....	22	28	32	35	48	62

See explanatory information and SOURCES at end of table.

Appendix table 4-33. Science and engineering postdoctoral appointees in doctorate-granting institutions, by sex and field: 1988–1993

Sex and field	1988	1989	1990	1991	1992	1993
Men:						
Total science and engineering.....	14,763	15,537	16,122	16,860	17,385	17,801
Sciences.....	13,249	13,800	14,387	14,843	15,289	15,648
Physical sciences.....	4,472	4,606	4,771	4,857	4,921	4,805
Astronomy.....	128	160	159	176	181	184
Chemistry.....	2,858	2,875	3,027	3,007	2,920	2,934
Physics.....	1,458	1,546	1,561	1,655	1,786	1,654
Physical sciences, n.e.c.....	28	25	24	19	34	33
Earth, atmospheric, and ocean sciences.....	408	380	496	511	533	595
Atmospheric sciences.....	66	56	51	49	51	68
Geosciences.....	225	222	281	311	316	343
Oceanography.....	92	86	145	127	135	143
Earth, atmospheric, and ocean sciences, n.e.c.....	25	16	19	24	31	41
Mathematical sciences.....	247	196	218	177	175	187
Computer sciences.....	80	64	62	100	112	139
Agricultural sciences.....	354	385	391	438	476	540
Biological sciences.....	7,203	7,606	7,924	8,263	8,567	8,842
Psychology.....	282	327	243	267	271	298
Social science.....	203	236	282	230	234	242
Economics.....	26	51	80	66	56	70
Political science.....	34	27	45	45	31	25
Sociology.....	40	41	57	49	45	39
Anthropology.....	37	45	37	27	36	23
Linguistics.....	21	18	23	9	16	15
History of science.....	11	10	9	10	11	18
Social sciences, n.e.c.....	34	44	31	24	39	52
Engineering.....	1,514	1,737	1,735	2,017	2,096	2,153
Aerospace engineering.....	45	35	63	73	88	105
Chemical engineering.....	370	420	470	486	465	447
Civil engineering.....	184	153	154	163	166	171
Electrical engineering.....	170	180	227	321	281	349
Mechanical engineering.....	198	288	203	301	329	337
Materials engineering.....	289	287	322	353	397	353
Industrial engineering.....	28	26	5	25	35	50
Engineering, n.e.c.....	230	348	291	295	335	341

SOURCE: National Science Foundation/SRS. Survey of Graduate Students and Postdoctorates in Science and Engineering, 1993.